

PSYCHOLOGICAL ABSTRACTS

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PSYCHOLOGICAL ABSTRACTS

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GENERAL

1. Anastasi, A. Some ambiguous concepts in the field of "mental organization." *Amer. J. Psychol.*, 1935, 47, 508-511.—"An attempt has been made in the present paper to give the most natural, objective, and simple interpretation to some widely misunderstood and variously interpreted terms (e.g., group factor, factor, proficient, etc.). It has been assumed that these interpretations are essentially those implied whenever such terms are employed in statistical studies on mental organization. Should these be at variance with the interpretations intended by any workers in the field, this difference should certainly be brought to light. The discovery of such differences, if there be any, may well be considered an incidental purpose of the present paper."—D. E. Johannsen (Skidmore).
2. [Anon.] Ivan Petrovich Pavlov. *Méd. exp., Kharkov*, 1935, No. 1, 14-16.—Note on his 85th birthday.—F. S. Keller (Colgate).
3. Breasted, J. H. The beginnings of time measurement and the origins of our calendar. *Sci. Mon.*, N. Y., 1935, 41, 289-304.—J. F. Dashiell (North Carolina).
4. Brown, A. W., & others. Report of committee of clinical section of American Psychological Association: I. The definition of clinical psychology and standards of training for clinical psychologists. II. Guide to psychological clinics in the United States. *Psychol. Clin.*, 1935, 23, 1-140.—This report embodies the results of the committee's work since 1932. It is based on the opinions of leading clinical psychologists and on answers to a questionnaire received from 150 clinics. The committee gives its definition of clinical psychology, and strongly recommends that the research method be an integral part of clinical procedure. It recommends the recognition of two levels of clinical work. The *clinical psychologist* shall have a Ph.D. in psychology, or its equivalent, and one year of clinical experience. The *assistant clinical psychologist* shall have an M.A. in psychology, or its equivalent, and one year of clinical experience. The data obtained from the 150 clinics are presented in a number of tables. The committee finds provision for social work and remedial teaching inadequate, and it sharply criticizes the present neglect of adequate provision for research. The bulk of the report is devoted to brief descriptions of the separate clinics, their personnel, work, and methods.—J. T. Metcalf (Vermont).
5. Bünning, E. Sind die Organismen mikrophysikalische Systeme? (Are organisms microphysical systems?) *Erkenntnis*, 1935, 5, 337-347.—Bünning disagrees sharply with Jordan's (see IX: 16) thesis of biological indeterminism. He argues from the standpoint of experimental physiology, showing the great advantages of postulating determinism for research. He further attacks the logic of Jordan's thesis.—J. F. Brown (Kansas).
6. Cason, H. The courses in experimental psychology. *J. gen. Psychol.*, 1935, 13, 176-185.—Opinions of psychologists were collected on the general organization of courses in psychology, and on the purposes, content, and methods of teaching courses in experimental psychology.—H. Cason (Wisconsin).
7. Dunlap, K. A tenth-second current interrupter. *Psychol. Bull.*, 1935, 32, 532-533.—Abstract.—J. F. Dashiell (North Carolina).
8. Freud, S. *Autobiography*. (Trans. by J. Strachey.) New York: Norton, 1935. Pp. 153. \$2.00.—The present edition contains a chapter covering the period from 1925 to 1935, the original edition having appeared in Germany in 1925 and in America in 1927. The general development of the author's contributions is presented with some reference to the reception of psychoanalysis by its friends and enemies.—W. S. Hunter (Clark).
9. Geldreich, E. W. The use of a calibrated potentiometer in the measurement of the galvanic skin response. *Amer. J. Psychol.*, 1935, 47, 491-493.—D. E. Johannsen (Skidmore).
10. Graf, O. Experimentelle Psychologie und Psychotechnik. (Experimental psychology and psychotechnics.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 341-357.—The author sketches a number of recent experiments growing out of the work of Jaensch, Kretschmer, and others. The main intent of the article is to make clear the various types and techniques of experimental psychology and to show the bearing of the results obtained through these methods on psychiatry. Among the many experiments cited are some on structural differences; heredity and environment; integrational psychology; intelligence and the development of speech; the influence of birth month on intelligence quotients. There is a bibliography.—D. S. Oberlin (Newark, Del.).
11. Halstead, W., Misbach, L., & Collier, J. [Eds.] *Studies in physiological psychology*. Vol. 5. Evanston: Northwestern Univ., 1935. Pp. 111.—A series of papers contributed by members of Fearing's seminar. The titles of the topics and their respective authors are: the function of concepts in science, including a tentative list of categories for concepts in psychology (F. Fearing); histological concepts of the synapse with a brief reference to supporting physiological evidence (J. Kraft); sensory orientation and learning in ants (J. I. Collier); the nature of auditory adaptation (E. Rubin); habituation of vestibular after-nystagmus (W. Halstead); type

psychology evaluated with reference to Cohen's conception of the nature of psychological science (L. Misbach).—*P. S. de Q. Cabot* (Harvard).

12. Henry, F. M. Objective indicators and recorders of electric shock. *J. gen. Psychol.*, 1935, 13, 219-222.—Several indicators and recorders are described.—*H. Cason* (Wisconsin).

13. Hummon, I. F. An automatic stimulator. *Amer. J. Physiol.*, 1935, 113, 69.—"This is a stimulator using amplified current from a photoelectric cell, with rotating disc interrupter."—*T. W. Forbes* (N. Y. Psychiatric Institute).

14. Jastrow, J. Has psychology failed? *Amer. Scholar*, 1935, 4, 261-269.—Some pioneer American psychologists, including James and Hall, expressed their belief that the early promise of psychology had not been fulfilled. Jastrow, writing for today, confesses a certain sympathy with this feeling. Reviewing the directions taken by behaviorism, psychoanalysis, the Gestalt psychology, and the various applications, the author maintains that "the present textbook chaos is the work of drifting pilots." What is needed is to follow the lead of biology, so that the psychologist can become "the naturalist of the mind."—*F. W. Irwin* (Pennsylvania).

15. Jordan, P. *Ergänzende Bemerkungen über Biologie und Quantenmechanik*. (Supplementary remarks on biology and quantum mechanics.) *Erkenntnis*, 1935, 5, 348-352.—Jordan attempts to answer the objections raised by Jensen (see IX: 15) and Bünning (see X: 5) to his thesis that the Heisenberg indeterminacy relationship implies biological and psychological indeterminism.—*J. F. Brown* (Kansas).

16. Jordan, Z. Próba analizy teorii zdań psychologicznych prof. T. Kotarbińskiego. (Attempt to analyze Kotarbinski's theory of psychology.) *Psychometria*, 1935, 2, 347-375.—Psychology describes how organisms feel. We cannot observe the feelings of others directly, but we can experience our own feelings. We can learn how others feel by imitating their behavior and trying to reproduce everything others use to express their feelings (ideas, emotions, drives, etc.). There is no essential difference between introspection and extraspection of others; the former is imitation of one's own feelings from memory. These are statements of Kotarbinski with which the author disagrees. The latter believes that the knowledge of one's own and others' experiences is immediate in the manner suggested by Gestalt theory (Köhler).—*Z. Piotrowski* (Columbia).

17. Kallen, L. A., & Polin, H. S. Physiological stroboscope. *Science*, 1935, 82, 377.—A cathode-ray oscillograph and a recording device with audiometer has been added to the apparatus described in *Science* for Dec. 21, 1934. "With this apparatus revealing for the first time the tonal conformation of the cords during the frequency transitions, and with a visual representation of the sound thus produced, a relationship is postulated wherein a particular tone is reproducible by the reestablishment of a predictable set of mechanical conditions in the larynx. Thus the

isolation of individual factors responsible for vocal characteristics is accomplished."—*R. Goldman* (Clark).

18. Kreutz, M. [Ed.] *Prace Instytutu psychologicznego Uniwersytetu Jana Kazimierza we Lwowie*. (Studies from the Psychological Institute of Jan Casimir University at Lwów.) Lwów: W Księgarni Gubrynowicza. Vol. 1, No. 1, 1935.—*R. R. Willoughby* (Clark).

19. Kreutz, M. Technika metody introspekcyjnej. (The technique of the introspective method.) *Prace Inst. psychol. Uniw. Lwowie*, 1935, 1, 1-45.—There are two fundamental weaknesses in introspective reports which render them unamenable to scientific treatment: (1) variety of report, and (2) "looseness" of terminology due to the use of every-day expressions and descriptive additions. In regard to the first point, it becomes impossible (1) to tell whether the phenomenon reported is characteristic of the psychic state being studied or is an individual response, and (2) to discover any numerical or systematic relation between the phenomena. It is suggested that after each trial in an experiment each subject be given a set of questions based on the phenomenon being studied. There should be only 10 to 15 questions. With experience they can be adapted to fit the levels of intelligence and sophistication of the particular subjects being used. Opportunity should be given for a "free" report which will give details, etc., not covered by the questions. This can be done by drawing up an inventory and classification of details pertaining to the psychic state studied and then, for each individual, after each trial, recording all the reported phenomena in symbols. The advantages of this method are that it can be used on adolescents and illiterates, makes the reports easier, and insures that the reports will be along the lines desired. A résumé is given in French.—*R. Goldman* (Clark).

20. Lane, C. T., McCulloch, W. S., Prescott, C. H., & Dusser de Barenne, J. G. A new method for the investigation of the electrical properties of living tissues. *Amer. J. Physiol.*, 1935, 113, 85-86.—"A fluctuating voltage is applied to the specimen and a series resistance. The voltage across the specimen produces horizontal deflection, and that across the resistance vertical deflection of the spot on the fluorescent screen of a cathode ray oscillograph. Balanced amplifiers may be used if desirable. . . . By the method outlined it is now possible to measure, during electrical stimulation, those properties of the living tissue stimulated which determine the passage of the electrical impulses, and hence to know what constitutes the actual electrical stimulus affecting the tissue."—*T. W. Forbes* (N. Y. Psychiatric Institute).

21. Loughnan, H. B. What is the value of Woodworth's psychology? *Aust. J. Psychol. Phil.*, 1935, 13, 161-187.—Woodworth's stimulus-response doctrine, in all editions of his *Psychology* up to the latest (which was not seen), is an inadequate explanation of mental life. It cannot explain mental processes that are similar in form but different in quality, long-sustained mental efforts, perception of relations,

rational inference, willing, inventing. In many instances "stimulus" is only "a vague and meaningless name." The three classes of external, internal, and central stimuli are not enough. "Trial and error" applied to human behavior is often an over-simplification. "There is very little, if any, value in his theory of stimulus-response."—*H. D. Spoerl* (Northeastern).

22. **MacIver, R. M., & others.** [Eds.] *Journal of social philosophy*. New York: College of the City of New York. Vol. 1, No. 1, October, 1935. Quarterly. \$3.00.—*R. R. Willoughby* (Clark).

23. **Mowrer, O. H.** A device for studying eye-hand coordination without visual guidance. *Amer. J. Psychol.*, 1935, **47**, 493-495.—*D. E. Johannsen* (Skidmore).

24. **Murray, E.** The Ishihara test for color-blindness: a point in ethics. *Amer. J. Psychol.*, 1935, **47**, 511-513.—A complaint regarding the publication of the Ishihara test for color-blindness in a Sunday supplement, together with the key. The author urges the development of a new edition which will modify certain errors in the original, and emphasizes the necessity of having it properly copyrighted and sold only to members of the medical and psychological professions.—*D. E. Johannsen* (Skidmore).

25. **Nylander, F.** An outline and objective examination of basic concepts and methods in experimental psychology. *Psychol. Bull.*, 1935, **32**, 542.—Abstract.—*J. F. Dashiell* (North Carolina).

26. **Okuyama, M.** The "Rôken" gas analysis apparatus. *Arbeitsphysiologie*, 1933, **7**, 536-543.—A description of an eudiometer of the Haldane-Simonson type.—*R. R. Willoughby* (Clark).

27. **Patterson, T. L., Scantlebury, R. E., & Gijbers, J. A.** New improvements on the ink recording system for kymographic registration. *Amer. J. Physiol.*, 1935, **113**, 104.—An ink recording pen is constructed from the quill of a chicken feather and used on various recording instruments with a heavy grade kymograph paper.—*T. W. Forbes* (N. Y. Psychiatric Institute).

28. **Perry, R. B.** The thought and character of William James: as revealed in unpublished correspondence and notes, together with his published writings. Vol. 1, *Inheritance and vocation*; vol. 2, *Philosophy and psychology*. Boston: Little, Brown, 1935. Pp. 826, 786. \$12.00.—The author has created a detailed and intimate picture of William James by letting James and his ancestors and friends speak through their letters and by supplying only such running comments and interpretations as are called for in the interests of continuity. The first volume follows James' life from childhood, with emphasis placed upon his father's influence, his education and vocational vacillation, his initial choice of physiology and the final shift through psychology to philosophy. Although both volumes are necessary for the psychological understanding of James' personality, the second volume contains the more relevant material on his scholarly achievements. Here are presented the famous "issue" between James and G. Stanley

Hall on the founding of the first psychological laboratory in America, the story of the writing of the *Principles of Psychology*, letters concerning later books on philosophy and the relationships between James and Münsterberg, Stumpf, C. Peirce, Schiller, Dewey, Strong, Boutroux, Bergson, and others. The author contributes a description of James' personality traits: "We have met two William Jameses: the neurasthenic James, with his unstable nervous equilibrium, his sometimes morbidly vivid and lawless imagination, his oscillation of mood and aversion for rigorous intellectual procedure; and the radiant James, vivid, gay, loving, companionable, and sensitive. We have, in fact, met a third James, in whom the second of these is deepened and enriched through being united with the first." Among the appendices is a list of the final examination questions in James' (1879) graduate course in physiological psychology and the syllabus of Philosophy 3 (1902-03), which the author describes as James' most comprehensive statement of his philosophy. Photographs of James are included for the years 1865, 1872, 1885, 1905, and 1909.—*W. S. Hunter* (Clark).

29. **Peterson, J.** The thirtieth annual meeting of the Southern Society for Philosophy and Psychology. *Amer. J. Psychol.*, 1935, **47**, 513-515.—List of papers read, without critical comment. The suggestion is made that the method of electing members of the executive council be modified.—*D. E. Johannsen* (Skidmore).

30. **Reid, J. R.** The apotheosis of intelligence. *J. Phil.*, 1935, **32**, 375-385.—Dewey denies value to mere enjoyments and satisfactions, arguing that valuation requires consideration of the causal conditions and consequences so as to assign the item its place in a rational life. This would lead to an endless process, since causes and consequents would, in turn, have to be estimated in terms of their causes and consequents, and so on. Moreover we do directly compare sounds, tastes, etc., and judge one better than the other. Again, in many cases considerations of history and social consequences are irrelevant to judgment of value, or at least not essential. This is particularly true of esthetic judgment. Dewey appears to confuse direct valuing with practical morality, which is concerned with the production, security, and distribution of values. This leads to an over-emphasis on the intellectual aspect of value theory.—*E. T. Mitchell* (Texas).

31. **Roberts, W. H.** We study life: adventures of Psychology 104. *Psychol. Bull.*, 1935, **32**, 544.—Abstract.—*J. F. Dashiell* (North Carolina).

32. **Shadle, A. R., & Skarupinski, I.** A zipper tube for holding small live animals. *Science*, 1935, **82**, 335.—A "cone-shaped or projectile-shaped tube of strong soft cloth should be at least twice the length and a third larger in diameter than the largest animal it is to hold. The basal end of the tube is left open and may be kept permanently open by reinforcing it with a ring or hoop of the necessary size, sewed into a hem around the base. The basal third of the tube is fastened together along the side seam, and a zipper

fastened with a patent lock completes the closure of the tube wall to the apex." The tube has been used in handling and weighing both ground squirrels and rats.—*R. Goldman* (Clark).

33. **Skinner, C. E.** [Ed.] *Readings in psychology*. New York: Farrar & Rinehart, 1935. Pp. 853. \$2.90, \$4.00.—These readings, planned for the beginning course in psychology, are grouped in 26 chapters. Each chapter was prepared by a co-editor and several are prefaced by a brief introductory statement. The topics represented are predominantly those of general psychology, although chapters are given on social and applied psychology and on the history of psychology.—*W. S. Hunter* (Clark).

34. **Struthers, A. B.** *A method of recording minute and obscure movements*. *Psychol. Bull.*, 1935, 32, 545.—Abstract.—*J. F. Dashiell* (North Carolina).

35. **Tryon, R. C.** *A theory of psychological components—an alternative to "mathematical factors."* *Psychol. Rev.*, 1935, 42, 425-454.—Theories which postulate "mathematical factors" as the determinants of individual differences involve assumptions that do not possess psychological or genetic validity. An alternative theory of psychological components is presented—concepts, and motivational and emotional dispositions, existing in large numbers, manifesting functional independence, combining in complex, not necessarily summative ways, displaying relatively indeterminate weights in producing a reaction, possessing form, content, retentivity, and degree of generality as definitive features. Each component originates in a psychological relational field consisting of an external environmental field and a conceptual background, and requires as a necessary condition for emergence an adequate somatic constitution. Psychological tests are samples of such components from an *a priori* defined universe or domain of components. Variation of an individual on different forms of a test is due not to chance but to non-identity of the components sampled by each form. Knowledge of the psychological components and of their causes gives a rationale for the intercorrelation between tests or behavior samples.—*A. G. Bills* (Chicago).

36. **Varon, E. J.** *The development of Alfred Binet's psychology*. *Psychol. Monogr.*, 1935, 46, No. 207. Pp. 129.—The author traces the development of Binet's psychology from the time when Binet belonged to the associationist school through a transitional period to his interest in individual psychology. The invention and use of the Binet-Simon scale are described at some length, and there is a sympathetic treatment of the partial evolution of Binet's new system of psychology.—*H. Cason* (Wisconsin).

37. **Wallon, H.** *Psychologie et technique*. (*Psychology and technique*.) *J. Psychol. norm. path.*, 1935, 32, 161-182.—The condition of the science of psychology before and after its contact with scientific method is discussed. There are at present two coexisting types of psychology; (1) the remains of traditional philosophical psychology, and (2) a psychology based on precise observation and measurement. The latter may again be divided into experimental psychology and psychotechnics. The main

points stressed are (1) that new techniques introduce vast changes in our way of thinking, and (2) that there is a definite coherence observable in all the manifestations of an era.—*R. E. Perl* (Columbia).

38. **Wechsler, D.** *The range of human capacities*. Baltimore: Williams & Wilkins, 1935. Pp. ix + 159. \$2.50.—This book is a study of the range and measurable limits of human traits and abilities, with special focus on the problem as to how the best and least endowed individuals in any group compare with one another. The author has sought to make this comparison through an analysis of what he terms total range ratio. The total range ratio is a ratio between the extremes of ability in the normal population, where the extremes are defined as the best and the least able individual in every thousand. An analysis of the data of nearly 100 traits and abilities shows that in the vast majority of them the total range ratios fall within the limits of 1.5 and 2.5 to 1, and the author concludes that the range of human capacities when calculated in true units of amount is exceedingly small. Or, more generally, that the "differences which separate human beings from one another with respect to whatever trait or ability we wish to compare" are exceedingly small. The book emphasizes the implications which this generalization may have for psychology and the social sciences. It contains chapters on the measurement of human capacities; distribution of traits and abilities; the limits of human variabilities; the burden of age; exceptions; genius and deficiency; and the meaning of differences. Considerable space is devoted to the influence of age on our capacities, and in particular to the question of the age of maximal virility. On the basis of the data presented, the author concludes that there is no evidence for the belief that the average man retains either his intellectual or physical power beyond 40 even when spared from the ravages of disease. Most men tend to attain their maximal capacities between the ages of 22 and 28; and, contrary to current belief, intellectual ability begins to decline at an earlier age than most physical capacities. The book includes an appendix of 15 tables, giving in detail the data from which the generalizations have been drawn, and a bibliography of 107 references.—*D. Wechsler* (Bellevue Hospital).

39. **Wenzl, A.** *Das Leib-Seeleproblem (Einführung und Überblick über seine Entwicklung)*. (The mind-body problem; introduction and survey of its development.) *Pädag. Warte*, 1934, No. 4, 1-7.—*R. R. Willoughby* (Clark).

40. **Wheeler, R. H.** *The tenth annual meeting of the Midwestern Psychological Association*. *Amer. J. Psychol.*, 1935, 47, 515-518.—*D. E. Johannsen* (Skidmore).

41. **Williams, H. M.** *A simplified polygraph*. *Amer. J. Psychol.*, 1935, 47, 496-497.—*D. E. Johannsen* (Skidmore).

[See also abstracts 96, 225, 280, 288, 578, 667.]

SENSATION AND PERCEPTION

42. **Allers, R.** *Über einige Unterschiede zwischen dem ein- und dem Beidäugigen Sehen und über den*

Einfluss seelischer Momente auf einfache Leistungen des Gesichtssinnes. (On some differences between monocular and binocular vision and on the influence of psychical moments on simple visual functions.) *S. B. Akad. Wiss. Wien*, 1935, 144, Nos. 1-2, 33-79.—The author opposes to the common view, which regards binocular vision as the sum of the functions of both eyes, the idea that binocular vision ought to be taken as the original and "natural" function, whereas monocular vision is considered as a remainder or rudiment, a fragment remaining after the destruction of the normal function. Experiments on rivalry of visual fields showed that the different phases persisted a longer or shorter period according to the instructions given. Another series of experiments investigates the simultaneous comparison of brightnesses experienced by one eye while the other is exposed to different intensities of illumination which vary from utter darkness to a marked degree of brightness. The percentage of good judgments is smaller when the non-observing eye does "not see," being in darkness, than when this eye is slightly illuminated. Three brightness differences and three degrees of illumination of the non-observing eye were employed. The exposure times were 2, 3, 4, 6, 7, and 8 sec. The differences in the percentage of true judgments are ascribed to the influence of rivalry. Since rivalry cannot be excluded by closing one eye, it is really impossible ever to compare monocular and binocular brightness perception. The differences found by some investigators between those two forms of vision are probably due mostly to rivalry in so-called monocular vision and not to any real superiority of binocular vision. Rivalry influences also the successive comparison of brightness, the first stimulus being given to one eye and the second to the other (both eyes looking into black tubes of 35 cm.); the influence of rivalry becomes more marked if the position lasts more than 3 sec. on the average. But the inferiority of this alternating observation compared with monocular or binocular vision cannot be ascribed wholly to the influence of rivalry. Separating the perception of both eyes creates an "unnatural" situation to which the visual organ seems badly adapted. This inferiority of separated and alternating monocular vision also became evident in experiments on apparent movements, in which the first object was presented to one eye and the second to the other. The optimal interval for producing the impression of clear movement was found, on the average, to be 66 σ in normal binocular vision, 65 σ in monocular, but 155 σ in alternating vision. The difference between normal and alternating observations is discussed. The possibility of a physiological analysis of "interest" is alluded to.—*R. Allers* (Vienna).

43. [Anon.] Council of British ophthalmologists. Revised report on standard illumination of Snellen's types used in testing the vision of candidates for public services, 1935. *Brit. J. Ophthalmol.*, 1935, 19, 521-520.—The committee recommends a uniform, artificial illumination of at least 10 foot candles. A method of lighting described in the report is to be adopted.—*R. J. Beitel, Jr.* (American Optical Company).

44. **Baba, Y. Ueber die Lehre vom Vibrationssinn.** (On the theory of vibration sense.) *Jap. J. Psychol.*, 1935, 10, 437-468.—A brief historical review of the theory of vibration sense in which stress is laid particularly on the divergent viewpoints of v. Frey and Katz is followed by a detailed exposition of Katz's theory under the following heads: his phenomenological standpoint, unique character of the sense, the sense organ and forms of stimuli, classification, its relation with the sense aroused by electric stimulation, psychophysical studies, etc.—*R. Kuroda* (Keijo).

45. **Berry, W., & Imus, H. Quantitative aspects of the flight of colors.** *Amer. J. Psychol.*, 1935, 47, 449-457.—"Two experiments were carried on to obtain data on the combined effect of the intensity and the duration of exposure of the stimulus light upon (a) the duration of the flight, and (b) the number of phases in the flight." In one experiment the variable was the intensity of the stimulus light, in the other the duration of exposure. The intensity levels in Exp. I varied from .09 to 11,205 ml.; duration of exposure was 60 sec. For the second experiment the duration of exposure varied from .0087 to 60 sec.; the stimulus intensity was 7400 ml. A common factor for both experiments was obtained by multiplying the intensity by the duration of exposure (the I. T. value). The results of the study indicate that as the log I. T. product varies arithmetically the duration of the flight varies geometrically, within the limits of the experiment. As the log I. T. product varies arithmetically the average number of phases in the flight varies geometrically. A close adherence to a straight-line relation between the duration of and the number of phases in the flight is indicated, particularly at the lowest levels used.—*D. E. Johannsen* (Skidmore).

46. **Blakeslee, A. F. Tests of the sense of smell at the New York flower show.** *Eugen. News*, 1935, 20, 75-76.—Over 8400 people recorded their votes regarding the odor of two varieties of flowers. "People were found to differ widely both in respect to their reactions as to the strength and as to the attractiveness of the odor." Information not recordable on the voting machine was obtained through personal interview. A few in their sense of smell approach the acuity of hounds. A surprisingly large number reported loss of the sense, and hereditary factors seemed involved in some such cases. Though significant differences were found between recorded votes of men and women, the author remarks that these differences may have no relation to the acuity of smell in the two sexes.—*M. V. Loudon* (Pittsburgh).

47. **Blakeslee, A. F., & Salmon, T. N. Genetics of sensory thresholds: individual taste reactions for different substances.** *Proc. nat. Acad. Sci., Wash.*, 1935, 21, 84-90.—In an attempt to select substances best adapted for use as reagents in ultimate genetic studies, 47 adults were tested as to threshold sensitivity with 17 different substances (bitter, sour, sweet or salty). Threshold concentrations ranged between a dilution of 1:5120M (optochin base) and 1:39.06 (sucrose and antipyrine). PTC (phenyl-thio-carb-

amide) possessed the greatest threshold range (13 grades of sensitivity, corresponding to specific threshold concentrations); NaCl, KCl and picric acid had the narrowest (4 grades). No two subjects were alike in all their thresholds; and the correlation between two substances, while "generally positive, is relatively low, with striking exceptions." Earlier distinction between "tasters" and "non-tasters" is considered unfortunate in view of the arbitrary choice of threshold concentration of the substances employed.—F. S. Keller (Colgate).

48. Bogoslovsky, A. I. [Influence of light and dark adaptation upon electrical sensitivity of the eye.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 152-166.—The electrical sensitivity of the eye decreased during dark adaptation, increased after bright light illumination, and remained constant after a weak light. The electrical sensitivity of the eye is a function of the adaptation state and varies with the intensity and duration of light stimuli.—A. Yarmolenko (Leningrad).

49. Bogoslovsky, A. I. Über die Abhängigkeit der elektrischen Empfindlichkeit des Auges von den verschiedenen Adaptationsbedingungen. (Concerning the dependence of the electrical sensitivity of the eye upon the various conditions of adaptation.) v. Graefes Arch. Ophthalm., 1935, 133, 105-114.—The central factor (sensitivity of the nerve centers) without doubt plays a great part in the functioning of our eyes. The methods of determination of the electrical sensitivity of the eyes are of particular value in investigating the question of the regularity which controls the sensitivity of the nerve centers in their dependence upon various stimulus conditions. The main experiment was divided as follows: (1) determination of the electrical sensitivity during long-continued binocular dark adaptation; (2) the same during long-continued binocular bright adaptation at three levels of brightness, 4000 lux white, 250 lux white, and 3.5 lux white. The results showed that the electrical sensitivity of the eye varies according to its dependence upon the intensity and duration of the prevailing light stimuli. It decreases steadily during dark adaptation, at first rapidly and then more slowly, but on continued bright adaptation the electrical sensitivity increases at first, reaches a maximum, and then decreases, while at a certain low degree of brightness of the light adapting the eye it remains continually unchanged.—H. A. Imus (Dartmouth).

50. Bourdon, B. La prédominance des formes dans la vision binoculaire. (The predominance of form in binocular vision.) Bull. Soc. Sci. Bretagne, 1934, 11, Nos. 1, 2. Pp. 7.—Form plays a more important role in our visual perceptions than does color. The possibility of maintaining fixation depends upon the presence of form in our visual field and not upon our own will. The author describes "some interesting phenomena manifesting the predominance of form in binocular vision."—R. J. Beitel, Jr. (American Optical Company).

51. Brändstedt, G. Untersuchungen über Minimum perceptible und Distinktionsvermögen des

Auges besonders hinsichtlich ihres Verhaltens bei Myopie. (Investigations concerning the minimum perceptible and discrimination ability of the eye with special reference to their behavior in myopia.) Acta Ophthalm., Kbh., 1935, Suppl. 5. Pp. 188.—Using Gullstrand's photometer and Möller-Edmund's skotopikometer, the author has investigated the minimum perceptible and discrimination ability, respectively, of 1534 myopic and 1015 non-myopic eyes. The determinations of the minimum perceptible yielded the following results. (A) In non-myopic eyes: (1) 2/100,000 lux is the most frequently occurring value after one-half hour's dark adaptation; (2) values above 4/100,000 lux occur relatively seldom; (3) definite sex differences do not exist; (4) the values increase with increasing age of the subject; (5) the values increase as the visual acuity decreases. (B) In myopic eyes: (1) the values are, on the average, higher than those for the non-myopic eyes; (2) no sex differences are found to exist; (3) the values increase with increasing age of the patients; (4) the values increase both as acuity decreases and with the degree of myopia; (5) cases exhibiting fundus changes yield higher values than those not showing them; (6) the values increase with the degree of fundus changes. The determinations of the discrimination ability yield the following results. (A) In non-myopic eyes: (1) the discrimination ability is, as a rule, 1.25; (2) values under 1.25 occur in 12.7% of the cases; (3) no sex differences exist; (4) the ability diminishes with increasing age of the subjects and exhibits a very intimate connection with visual acuity; (5) between discrimination ability and minimum perceptible there exists likewise a strong connection. (B) In myopic eyes: (1) similar to (1), (2), (3), and (4) above; (2) a more intimate connection exists between discrimination ability and the minimum perceptible; (3) the discrimination ability becomes worse with increasing degree of myopia; (4) this ability is, on the average, worse for cases showing fundus changes than for cases without such changes and becomes worse with the degree of these changes.—R. J. Beitel, Jr. (American Optical Company).

52. Bujas, Z. Prilog tumačenju nekik pojava u području okusa. (Contributions to the explanation of certain gustatory phenomena.) Apotekarskog Vjesn., 1935, No. 1-5, 1-14.—The taste of water after other substances have been tasted has commonly been described as a contrast effect. In this experiment the subjects reported that the taste of water was distinct from that of the substance which preceded it. Water is evidently the inadequate stimulus for unfatigued taste receptors. The phenomenon is therefore analogous to visual after-effects. This hypothesis accounts for Kiesow's finding of an enhanced sensitivity to certain taste-qualities after stimulation by others.—L. A. Riggs (Clark).

53. Ciocco, A. Disproportionate shortening of bone conduction: a statistical and clinical study. Acta otolaryng., Stockh., 1935, 22, 528-539.—In 907 patients with normal hearing through the air, 58% also showed normal bone conduction, 36.8% showed "slightly shortened" bone conduction (between ½

and $\frac{1}{2}$ the time of the examiner's normal), and 5.2% showed "shortened" bone conduction. A tuning fork of 512 d. v. was used for testing the bone conduction. Shortened bone conduction showed a positive correlation with age. No one in the group of 15 over 69 years of age had normal bone conduction, while only 6 of the 47 (12.8%) with shortened bone conduction were below 40 years; 461 (50.8%) of the total group of patients were under 40 years. No correlation was found between bone conduction and syphilis, sex, race, history of otitis media, otoscopic appearance of tympanic membrane, tinnitus, vertigo, cardiovascular diseases, malignant tumors, diseases of the gastrointestinal tract, trigeminal neuralgia, cerebral or cerebellar tumors. Nor was there any correlation with history of pneumonia, diphtheria, scarlet fever or typhoid fever. Bibliography.—M. B. Mitchell (New Hampshire State Hospital).

54. Clark, B. The effect of varying interfixation distances on ocular fixation movements. *Psychol. Bull.*, 1935, 32, 530.—Abstract.—J. F. Dashiell (North Carolina).

55. Clark, B., & Warren, N. Depth perception and interpupillary distance as factors in proficiency in ball games. *Amer. J. Psychol.*, 1935, 47, 485-487.—598 undergraduate men were tested to determine the importance of interpupillary distance and depth perception in sports. The results showed that there is no significant relation between interpupillary distance and depth perception, and athletes do not differ significantly from an unselected group on either basis.—D. E. Johannsen (Skidmore).

56. Coombs, C. H., & Shock, N. W. Galvanometric reactions of adolescents to olfactory stimuli. *Psychol. Bull.*, 1935, 32, 531.—Abstract.—J. F. Dashiell (North Carolina).

57. Culler, E., & Finch, G. Effect upon cochlear function of intense tonal stimulation. *Amer. J. Physiol.*, 1935, 113, 32.—"1. Protracted stimulation at 1000 cycles is followed by a severe horizontal subsidence of auditory acuity throughout an extensive section of the audible range (at least 200 to 5000 cycles). 2. A given quantity of sound-energy extending over ten hours at 4000 cycles brought a loss of 55 db at 125 cycles, increasing from that point to a maximal loss of 104 db at 4000 cycles. 3. The same quantity of sound-energy at the rate of 250 cycles gave on the contrary no loss at any frequency from 125 to 8000 cycles. 4. Equal quantities of stimulation at 1000 cycles show the following losses at successive octaves from 125 to 8000 in decibels: with both tympana intact, 6, 4, 6, 9, 8, 9, 7; with both tympana severed, 17, 13, 19, 17, 21, 12. This indicates that the tensor tympani serves to protect the ear at high intensities. . . . 6. When the tonal stimulus is interrupted about once per second, it induces far greater functional loss of hearing than does a continuous tone of the same amplitude. A well-known engineering phenomenon (repeated stresses are more destructive than a dead load of the same magnitude) is thus seen to hold for the cochlea."—T. W. Forbes (N. Y. Psychiatric Institute).

58. Davis, H., & Derbyshire, A. J. The mechanism of auditory masking. *Amer. J. Physiol.*, 1935, 113, 34.—"Auditory masking is the diminution of audibility of one sound caused by the presence of a second sound. Study of the electrical responses of the cochlea and of the auditory nerve of the cat shows that this phenomenon depends primarily on the refractory period of the nerve fibers. The cochlear response, which represents the activity of the sensory cells, shows no interference between simultaneous tones. There is simple addition of the electrical waves, subject only to the non-linear distortions of the ear. The volley of action potentials which results from stimulation by a single click may be wholly or partly masked by a tone of 500 c.p.s. (both 20 db above threshold) or it may wholly or partly mask the impulses corresponding to one cycle of the tone, depending on the phase of the tone in which the click falls. The clicks and the tone compete for the same fibers and either one may exclude the other, for either response leaves the auditory pathway unresponsive to the other stimulus for roughly 1.0 ms. . . . Masking is the only limitation of auditory function that as yet appears to be dependent on the all-or-none character of nerve conduction."—T. W. Forbes (N. Y. Psychiatric Institute).

59. Derbyshire, A. J., & Davis, H. The probable mechanism for stimulation of the auditory nerve by the organ of Corti. *Amer. J. Physiol.*, 1935, 113, 35.—"We have studied the electric phenomena at the round window and the action potentials of the auditory nerve of the cat. The ear was stimulated by a series of clicks at 60 per second. Each click was a rapidly decrementing high-frequency train of sound waves. At the round window, the latency of the action potentials from the first negative peak of the cochlear response was 0.8 ms. at threshold, 0.5 to 0.6 ms. at 30 db above threshold, and did not diminish with further increase in intensity. . . . The minimal latency of 0.5 to 0.6 ms. cannot be explained by a conduction time in the non-medullated terminations of the auditory fibers lying on the basilar membrane, because the shortest non-medullated sections are only about 30 μ long. We have previously determined the functional refractory period of the auditory fibers as 1.0 ms. This is evidence that these fibers are "quick" throughout. Their minimal utilization time could hardly be over 0.1 ms. Therefore the observed latency of 0.5 ms. cannot reasonably be explained as utilization time of stimulation by the cochlear response. The polarity of the cochlear response adds a difficulty for any simple theory of direct electric stimulation, because the base of the hair-cells becomes electrically more positive at the time of stimulation. We believe it probable, therefore, that some chemical mediator, liberated by the sensory cell, stimulates the nerve endings."—T. W. Forbes (N. Y. Psychiatric Institute).

60. Derigs, H. E. Beitrag zu der Frage nach dem Kälte- und Wärme-Empfindungsvermögen der menschlichen Zähne. (Contribution to the problem of cold and warm sensory capacity in human teeth.)

Wurzburg: Becker, 1935. Pp. 25.—R. R. Willoughby (Clark).

61. Eames, T. H. Physiologic exophoria in relation to age. *Arch. Ophthalm., Chicago*, 1933, 9, 104-105.—(*Biol. Abstr.* IX: 11468).

62. Eyster, J. A. E., & Bast, T. H. Studies on the electrical response of the cochlea. *Amer. J. Physiol.*, 1935, 113, 40.—"These experiments are concerned with the origin and distribution of the electrical currents of the internal ear resulting from sound stimulation. The cochleas of guinea pigs were exposed and leads made from either the apex or base of the cochlea and an indifferent region in the neck muscles to an amplifier, attenuator, rectifier and swinging coil galvanometer. . . . The responses to different frequencies on comparison of apical and basal leads indicate a rather high degree of frequency localization in the cochlea. The response to frequencies below 500 cycles is greater from apical leads, while above this frequency a larger response is obtained from basal leads. The localization of response to low frequencies in the apical portions of the cochlea is also indicated by their great reduction or abolition on removal of the apical or two upper coils of the cochlea. Response of considerable magnitude may still be obtained at frequencies above 200 cycles after removal of all turns except the basal turn. Complete destruction or removal of the cochlea abolishes the response to all frequencies. Puncturing the canals of the cochlea, with drainage or withdrawal of fluid contents, results in varying degrees of reduction of response. Disturbance of pressure relations appears to be the main factor concerned. The usual result is a sharp drop in response on opening the cochlea, followed by a gradual recovery as the disturbed pressure relations are readjusted. The integrity of Reissner's membrane and the presence of a cochlear duct distinct from the scala vestibuli is not essential. Approximately normal response may be obtained in the presence of advanced atrophy of the organs of Corti. In certain cases however of more or less localized atrophy, there is a reduction in response to the frequencies that would be expected and it may be that the atrophy or some associated pathological change is responsible."—T. W. Forbes (N. Y. Psychiatric Institute).

63. Finner, P. F. Interchangeable standards for lifted weights. *Amer. J. Psychol.*, 1935, 47, 497.—D. E. Johannsen (Skidmore).

64. Foley, J. P. The effect of context upon perceptual differentiation. *Arch. Psychol., N. Y.*, 1935, No. 184. Pp. 67.—The present study was a direct attack upon the problem of the influence of spatio-temporal context upon perceptual differentiation. A form of code substitution was used; each subject substituted numbers for small squares composed of simple black and white surfaces. In Experiment I four forms were employed, each containing twelve designs; two forms had meaningful, two meaningless designs. The data showed a reliably greater number of correct substitutions made in the time limit in the meaningless forms. Experiment II made an analytical

attack upon the specific nature of the contextual influence established in Experiment I. The data seem to establish clearly that it was the "compactness" of black-white pattern and not the conventionalized or representative nature of the context which influenced perceptual differentiation. The suggestion was offered that "compactness" is itself probably "meaningful" in a behavioral sense, and is of experimental or biographical origin.—E. M. Achilles (Columbia).

65. Fry, G. A. Color sensations produced by intermittent white light and the three-component theory of color-vision. *Amer. J. Psychol.*, 1935, 47, 464-469.—"The brilliance produced by intermittent stimulation has been studied with special reference to the effects of varying the intensity, frequency, and wave length of the stimulus, and the brightness of the surrounding area. It was found at low frequencies that the brilliance produced by stimuli of long wave length is relatively less than that for other wave lengths of the same intensity." The author analyzes these data in terms of the three-component theory, and points out its inadequacy.—D. E. Johannsen (Skidmore).

66. Fry, G. A., & Robertson, V. M. Alleged effects of figure-ground upon hue and brilliance. *Amer. J. Psychol.*, 1935, 47, 424-435.—The problem of the present experiment was to demonstrate the effect of the figure-ground mode of perception upon hue and brilliance. No such effect was observed in the cases studied, since the effects noticed might be the result of the motor adjustments of the eye, and in other cases of neglected factors in the stimulus. "The theoretical and practical importance of the solution of this problem cannot be denied, for if the figure-ground mode of perception cannot affect color except indirectly by motor adjustments of the eye, and if these indirect effects can be prevented by the use of devices like artificial pupils, fixation-points and mydriatics, psychologists interested in the investigation of sensory phenomena under controlled conditions do not need to fear the advent into the experimental situation of the subjective figure-ground factor which has been alleged to play havoc with hue and brilliance."—D. E. Johannsen (Skidmore).

67. Gérard, W. Stereophänomene in vergleichender Darstellung. (Stereophenomena in comparative position.) *Untersuch. Psychol. Phil.*, n. s. 8, 1934. Pp. 107.—Gérard describes the newly discovered stereophenomena of the crossed elliptical paths, the "free-flying ball" and the vertical rotating disk. The second phenomenon is particularly remarkable and of the greatest scientific importance. A ball securely fastened to a disk rotating in a horizontal plane appears to loose itself from its base and follow a separate path. When the effect is fully developed, the impression is that of a planet describing an elliptical course in space. The apparent path can be measured by a direct and simple method. Analysis shows that the explanation of the phenomenon differs according to whether the eyes are fixed or follow the ball freely. The effect also diminishes with the

increasing distance of the observer, although it cannot be eliminated. These findings qualify previous studies on the subject.—W. Gérard (Berlin).

68. Gilmer, B. v. H. The measurement of the sensitivity of the skin to mechanical vibration. *J. gen. Psychol.*, 1935, 13, 42-61.—This investigation of the relative sensitivity to vibration of different regions of the hand and forearm showed that the most sensitive areas tested were on the fatty portions of the palmar side of the hand, and the finger tips were the most sensitive of these fatty areas. Reports on the nature of vibratory feelings showed a characteristic patterning of the sensations.—H. Cason (Wisconsin).

69. Goldmann, H., & Schubert, G. Das Gesichtsfeld in grossen Höhen. (The visual field at great heights.) *Arch. Aerophysiol.*, 1933, 1, 78-81.—(*Biol. Abstr.* IX: 11474).

70. Graham, H. T. Agents modifying the effect of subthreshold induction shocks. *Amer. J. Physiol.*, 1935, 113, 52.—T. W. Forbes (N. Y. Psychiatric Institute).

71. Harris, W. Vision and its disturbances in relation to cerebral lesions. *Lancet*, 1935, 228, 1139-1144.—The most simple visual organ is the pigmented epithelium of *Amphioxus*. In the Cyclostomata the optic nerves do not decussate, but in all higher vertebrates the optic nerves decussate in the chiasma. In all the higher fishes and all birds decussation is complete, and semi-decussation does not occur except in mammals. The anatomy of the visual pathway, the common lesions found in it, and the visual changes produced by them are described in detail.—D. J. Ingle (Mayo Foundation).

72. Hermans, T. G. Visual size constancy as a function of kinesthetic cues in binocular and monocular accommodation and fixation. *Psychol. Bull.*, 1935, 32, 536.—Abstract.—J. F. Dashiell (North Carolina).

73. Kemp, E. H., & Graham, C. H. The retinal response of the pigeon eye to lights of various wave lengths. *Amer. J. Physiol.*, 1935, 113, 81.—"Retinal potentials were registered, by means of a direct-coupled amplifier and a string galvanometer, from the eye of the pigeon, an animal whose color functions are well known. Various wave lengths of light were provided by Wratten monochromatic filters, and intensity was varied by means of neutral tint filters. The energy for each color was measured by means of a thermopile and galvanometer. The variation in the form of the retinal potential with variation in the intensity of white light is complex. At low intensities the response consists of a positive deflection which reaches a final steady value. As intensity increases, the positive response becomes larger and drops somewhat to the final level. With further increase, the positive response is preceded by a negative deflection; and at the highest intensities the final level becomes negative. These changes are superimposed on a small, slow, positive deflection. The intensity effect for all wave lengths over a wide range of intensities parallels that found with white light, and it is possible

to find responses at various intensity levels for different wave lengths which are similar throughout the spectrum. Too, one can find examples in the white light series of all the responses which Kohlrausch associated with specific wave length stimulation. An analysis of the results gives slight evidence for a Purkinje effect with variation in intensity. The visibility maximum for low to medium intensities is at a wave length of 500 mu."—T. W. Forbes (N. Y. Psychiatric Institute).

74. Kravkov, S. V. [On the influence of indirect stimulation upon visual functions.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 86-110.—A summary of data concerning variations in visual acuity, contrast sensibility, and irradiation due to the effect of indirect stimulation such as illumination of the other eye, sound, or smell. A theory is given to explain the dependence of the action of the indirect stimulus on the intensity of the direct one. Experiments indicate that light sensitivity can be intensified by previous light stimulation. The data are compared with those obtained in measuring the electrical sensitivity of the eye.—A. Yarmolenko (Leningrad).

75. Kravkov, S. V. [The glare effects of light.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 111-116.—Light in the form of a "glare source" produces a depressing effect on the visual functions. The most depressed function is the differentiating sensibility of the eye. The different influence of various dazzling factors are described.—A. Yarmolenko (Leningrad).

76. Kravkov, S. V. [Monocular and binocular color equation.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 133-137.—A gray color was produced by mixing two complementaries seen first monocularly, then binocularly. In either case the quantitative relation of both components proved to remain the same.—A. Yarmolenko (Leningrad).

77. Kravkov, S. V. [Dependence of visual acuity on illumination for white objects on black background.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 237-243.—A theoretical curve for the dependence of visual acuity on illumination is traced by the author on the basis of curves for contrast sensitivity and irradiation previously observed. Both functions correlate fairly well.—A. Yarmolenko (Leningrad).

78. Kravkov, S. V., & Semenovskaya, E. N. [Variations in light sensitivity of one eye due to a previous illumination of the other.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 138-142.—Experiments were performed to determine the effect of a 10-minute illumination of the left eye after a 70-minute dark adaptation. A successive heightening of the light sensitivity with a maximum for the right eye was found.—A. Yarmolenko (Leningrad).

79. Kravkov, S. V., & Semenovskaya, E. N. [Effect of a prolonged starvation upon visual func-

tions.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 177-180.—A case of complete starvation during 44 days is described, with the effects upon visual functions. Visual acuity and color discrimination remained normal, but a pronounced hemeralopia was found.—*A. Yarmolenko* (Leningrad).

80. Kravkov, S. V., Semenovskaya, E. N., & Bogoslovsky, A. I. [Simultaneous variations of electrical sensitivity and light sensitivity in one eye due to a previous illumination of the other.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 167-177.—The electrical sensitivity and light sensitivity in one eye were measured after a short illumination of the other eye. Both functions increased in comparison with the control experiments. The electrical sensitivity increases earlier than the light sensitivity. A constant electric current, irritating the visual nerve, can increase the light sensitivity of the eye.—*A. Yarmolenko* (Leningrad).

81. Kravkov, S. V., & Teplov, B. M. [Eds.] [Visual sensation and perception. Psychological investigations. Volume II.] Moscow: Gosekgiz, 1935. Pp. 272.—The collected volume contains investigations of the Psychological Institute concerning sensations and perceptions. Differing from the traditional psychological doctrines, the investigations are based on the physiology of sense organs (eye) and directed to a materialistic solution of the problem. Besides the experimental articles the volume contains the theoretical survey of the problem of sensation and perception from the point of view of Lenin's theory of reflection, the new methodological doctrines, and the literary survey of the question.—*A. Yarmolenko* (Leningrad).

82. Ladekarl, P. M. Über Farbendistinktion bei Normalen und Farbenblinden. (Concerning color discrimination in the normal and color-blind.) *Acta Ophthalm., Kbh.*, 1934, Suppl. 3. Pp. 128.—The present work is divided into three sections, the first of which treats the problem of sensitivity to changes in wave length of light. The second section deals with color matching and primary colors, while the third section treats certain characteristics in the color sense of some heterozygotic women.—*R. J. Beitel, Jr.* (American Optical Company).

83. Larsson, S. Über den Augendruck und die vorderen intraokularen Gefässe. Experimentelle Studien. (On ocular pressure and the principal intra-ocular vessels. Experimental studies.) Stockholm: Norstedt & Söner, 1930. Pp. 172.—(*Biol. Abstr.* IX: 11481).

84. Linder, F. E. The accuracy of the constant method. *Amer. J. Psychol.*, 1935, 47, 504-508.—"An experimental method is presented by which sampling problems in psychophysical methodology may be investigated. On the basis of data collected by this method, comparisons are made between the sampling variation of thresholds computed by the constant method and estimates of the sampling varia-

tion given by various probable error formulas. With the exception of the formula proposed by Thomson, no probable error formula for the constant method seems to give trustworthy results. Since Thomson's formula requires a prohibitive amount of computation, the experimental psychologist is left without any satisfactory measure of the sampling error of his procedure."—*D. E. Johannsen* (Skidmore).

85. Lorenz, A. B., & McClure, W. E. The influence of color blindness on intelligence and achievement of college men. *J. appl. Psychol.*, 1935, 19, 320-330.—9% were color blind of a group of 811 men tested at the University of Toledo on the Ishihara test. The average intelligence-test score for color-blind college students tends to be slightly higher than for non-color-blind, and average point-score grades tend to be slightly lower for the color-blind students.—*R. S. Schultz* (Psychological Corporation).

86. Malherbe, A., Vilenski, R., & Herman, N. Recherches sur les restes d'audition chez les sourds-muets. Etude de la perception osseuse—son utilisation pédagogique. (Studies on the auditory residues in deaf-mutes. A study of osseous perception—its use in pedagogy.) *Pr. méd.*, 1935, 43, 739-742.—Sound vibrations arrive at the terminations of the auditory nerve through the intermediation of the liquids in the inner ear, the perilymph and the endolymph, and these vibrations may be transmitted by the aero-tympanic pathway or by osseous vibration; the sound sensation will be the same in either case. The authors used a new apparatus which served to measure the audibility present when the osseous pathway was used: an electrostatic listening apparatus. Testing 100 children in a school for deaf-mutes, they found that 45 possessed a sense of hearing sufficient for education, 40 could be slightly ameliorated, and 15 had a completely useless sense of hearing. For the 45 educable children, they constructed an apparatus suitable for collective instruction which was composed of a microphone, a large amplifier, and vibrators for osseous conduction. The whole apparatus could be regulated at will by each child by means of a rheostat. This apparatus could be connected with either a phonograph or a radio.—*M. H. Piéron* (Sorbonne).

87. McIlroy, J. H. Investigation into the incidence and progress of myopia in children. *A. R. Lond. Co. Coun.*, 1932, 4, Part 3. Pp. 40.—(Not seen).

88. Mili, G. Visibility of signals through fog. *J. opt. Soc. Amer.*, 1935, 25, 237-240.—The practical limits of threshold visibility as previously determined for conditions of clear seeing do not apply in fog, where, due to diffusion, the apparent candle power of the beam is reduced and the contrast effect with the background is reduced even more significantly. Because of the lesser contrast, visibility is decreased in day fog more than in night fog. Color selectivity of fog is relatively unimportant. Data indicate that in day fog a 500,000 c.p. signal would have only about three times the visibility range of a 50 c.p. lamp. It is suggested that lenses or parabolic reflectors be used to concentrate signal beams and that over-

voltage operation of lamps be practiced during fogs.—*M. R. Stoll* (Massachusetts Eye & Ear Infirmary).

89. **Moore, R. F.** Subjective "lightning streaks." *Brit. J. Ophthalmol.*, 1935, 19, 545-547.—The author describes a clear-cut symptom complex of fairly common occurrence. "The symptoms are the occurrence of flashes of light, almost always compared to lightning, seen periodically for a few weeks or a month or two, almost invariably referred to the temporal side of the field of vision; they are most conspicuous, as would be expected, in the dark, and are either accompanied or followed by the appearance of spots before the eyes." The symptoms are commoner in females than in males, and mostly occur at or after middle age.—*R. J. Beitel, Jr.* (American Optical Company).

90. **Mullin, F. J., & Luckhardt, A. B.** Effects of certain analgesic drugs on cutaneous, tactile, and pain sensitivity. *Amer. J. Physiol.*, 1935, 113, 100-101.—"Determinations of cutaneous, tactile and pain sensitivity were made by the use of Von Frey hairs every half hour, for 2½ to 3½ hours, following the administration of supposedly analgesic drugs. . . . Morphine sulphate (¼ - ½ grain), alcohol (300-375 cc. of 20%), trichlorethylene, and, to some extent, codeine sulphate (1-1½ grains), all reduce the sensitivity to pain without affecting appreciably tactile sensitivity. In several instances the sensitivity to pain experienced on recovery from the drug was greater than normal. Morphine caused difficulty in micturition. Aspirin (2-3 grams), luminal (5-10 grains), sodium bromide (4-8 grams), acetanilid (0.3 gram), and calcium gluconate (10 grams), were without appreciable effect on pain and tactile sensitivity."—*T. W. Forbes* (N. Y. Psychiatric Institute).

91. **Needham, J. G.** The effect of the time interval upon the time-error at different intensive levels. *J. exp. Psychol.*, 1935, 18, 530-543.—The main experiment involved comparison judgments of pairs of stimuli of varying intensive level with the inclusion of a variation of the time interval separating the members of the stimulus-pairs. The stimuli were auditory intensities. An analysis of the results shows that there is a relative over-estimation of the louder stimuli and a relative under-estimation of the weaker stimuli, and that with a longer interval between the comparison stimuli the differences in relative estimation errors are magnified. In a supplementary experiment comparable effects appeared within the limits of the method of paired comparisons, employed in its complete form. It is suggested that a concept of reorganization is a consistent basis for discussion in the explanation of changes in judgments with a variation of the time interval.—*H. W. Karn* (Pittsburgh).

92. **Pfaffmann, C.** An experimental comparison of the method of single stimuli and the method of constant stimuli in gustation. *Amer. J. Psychol.*, 1935, 47, 470-476.—"Since the results show that the frequency distribution of judgments, the measures of precision and sensitivity, the extent of practice effects and the magnitude of the time-errors are

similar for both methods, it is concluded that the method of single stimuli is as adequate and certainly more convenient than the method of constant stimuli for psychological experimentation in gustation."—*D. E. Johannsen* (Skidmore).

93. **Pickard, R.** A study of the central and peripheral light and dark adaptations with varying backgrounds. *Brit. J. Ophthalmol.*, 1935, 19, 481-512.—"If the light threshold be defined as the least amount of light seen on a black background, and the light difference as the least amount of black seen on a white background, it is obvious that these extremes are joined together by an infinite number of intermediate positions from each of which a departure may be made in either direction of sensations lighter or darker than the background. In the present paper it is proposed to investigate the least differences in either direction at intermediate points, as well as in the one possible direction at the two extreme positions. The inquiry is directed to the peripheral as well as to the central capacity for discrimination, and the time required for adaptation."—*R. J. Beitel, Jr.* (American Optical Company).

94. **Pohlman, A. G.** Is the Weber interpretation of auditory mechanics correct? *Amer. J. Physiol.*, 1935, 113, 106-107.—"E. H. Weber in 1851 proposed a solution for the mechanics underlying an immersion receptor for air sounds. His explanation was so simple and so obvious that it was adopted practically without question and is the fundamental basis for all theories on sound analysis. The interpretation may be separated into five interrelated postulates and the evidence will be submitted that four of these postulates are incorrect. The deletion of the Weber explanation makes it unnecessary to discuss in detail why none of the theories on sound analysis fit the experimental evidence."—*T. W. Forbes* (N. Y. Psychiatric Institute).

95. **Purdy, D. M.** The structure of the visual world. I. Space-perception and the perception of wholes. *Psychol. Rev.*, 1935, 42, 399-424.—This paper offers a motor theory to explain visual space perception. The relative localization of visual objects is based on conflict between the oculo-motor orientation tendencies aroused by the object, which are called "tensions." Perception of direction depends on tensions of fixation, while depth perception depends on tensions of convergence. Localization is either symmetrical, where tensions of the two objects in question are equal, or asymmetrical, where they are unequal; and the object having the stronger tension acts as the reference system. The conflict between the tension set up by any object and the motor equilibrium of the body gives the egocentric localization of that object. Coherence and disjunction of visual patterns are caused by the strength of rivalry between the tensions set up by their parts. The main factor producing wholeness is homogeneity. A coherent pattern has "internal" localization of its parts, but the pattern is localized as a whole with reference to any external system of reference.—*A. G. Bills* (Chicago).

96. Rabkin, E. B. *Doslidzhennya kolorovidchuvannya*. (Research on color sensation.) *Méd. exp., Kharkov*, 1935, No. 1, 71-78.—A new method of investigating color blindness, combining the use of pseudo-isochromatic tables and a series of light filters, is offered in the form of an inexpensive and portable apparatus—the "chromatoscope"—which permits examinations to be made in natural and artificial light and avoids the lack of precision and diagnostic value of the methods of Stilling and Ishihara as they are ordinarily employed.—F. S. Keller (Colgate).
97. Rawdon-Smith, A. F., & Grindley, G. C. An illusion in the perception of loudness. *Brit. J. Psychol.*, 1935, 26, 191-195.—If the intensity of a sound is made to oscillate in a "saw-tooth" manner (i.e. so that its intensity changes suddenly by a small amount, and then returns slowly to its initial level), sudden changes may be perceptible when gradual changes are not. Under these conditions the loudness of the sound is judged to change progressively in the direction of the sudden changes, although the general intensity level is actually unchanged. It follows that the differential threshold is greater for a slow than for a rapid intensity change.—M. D. Vernon (Cambridge, England).
98. Robertson, C. J. Measurement of speed of adjustment of eye to near and far vision. *Arch. Ophthalmol., Chicago*, 1935, 14, 82-89.—The author reports results of a preliminary study where the observer was required to determine the positions of three E's which could be separately rotated into eight different positions and which were, respectively, 33 cm. distant and to the left of the midline, on the midline at 6 m. distance, and to the right of the midline at 33 cm. distance. Exposures were controlled and time was measured by means of a tachistoscope. The time required by the 62 subjects varied from 0.95 to 1.95 seconds; midshipmen aged 18 to 24 required on the average less time than aviators aged 30 to 38 while an unselected group of observers aged 18 to 44 were scattered throughout the range.—M. R. Stoll (Massachusetts Eye & Ear Infirmary).
99. Saareste, E. *Résultats des recherches otologiques pratiquées sur 1366 écoliers de Tartu*. (Results of the otological examination conducted on 1366 students in Tartu.) *Acta otolaryng., Stockh.*, 1935, 22, 487-518.—The author examined the ears of 1366 school children between the ages of 7 and 20. Among these 151 were found with impaired audition in one or both ears. This condition was twice as frequent in the younger group from the free schools as in the older group from the private schools. The condition of the ears was better among children from the country than among city-bred children. Only one third of the parents of children with auditory defects recognized this deficiency on questionnaires concerning their children. The school progress of these children was slower than for the group as a whole. The greater the size of the tonsils and adenoids, the worse the auditory impairment. Mouth breathing was found three times as often among the defective group as among the normal group. Over 40% of the defective ears were in children who had suffered from a suppuration. The danger of catarrhal otitis diminishes with the age of the pupil, but on the contrary, the dangers of middle-ear suppurating otitis and tympanic sclerosis increase with age. The prognosis for those over 13 is poor, while a spontaneous cure or one after treatment is much more frequent in younger children. Otological examinations and treatments are indicated to prevent the development of incurable auditory impairment in school children.—M. B. Mitchell (New Hampshire State Hospital).
100. Salmon, T. N., & Blakeslee, A. F. Genetics of sensory thresholds: variations within single individuals in taste sensitivity for PTC. *Proc. nat. Acad. Sci., Wash.*, 1935, 21, 78-83.—Tests of liminal taste sensitivity of adults to PTC (phenyl-thiocarbamide) in relation to a variety of factors (concentration, amount and temperature of solution, presence of saliva on tongue, tobacco using, rhythmic change in salivary pH, etc.) give evidence of a wide range of individual differences and individual variability of threshold in successive tests at long or short intervals.—F. S. Keller (Colgate).
101. Seashore, R. H. Improvability in pitch discrimination. *Psychol. Bull.*, 1935, 32, 545.—Abstract.—J. F. Dashiell (North Carolina).
102. Semenovskaya, E. N. [Effect of a previous red light illumination upon light sensitivity.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 142-152.—In the course of experiments dealing with the increase of light sensitivity after a previous light stimulation, red light was used as a stimulus because it acts exclusively upon the cones of the retina. The red stimulus was applied binocularly and monocularly (to the eye not investigated). In both cases an increase of the light sensitivity was obtained greater than after a previous stimulation by white light of equal brightness.—A. Yarmolenko (Leningrad).
103. Sevrugina, M. A., & Teplov, B. M. [Dependence of the threshold value upon the number of non-contiguous liminal stimuli.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 117-119.—The liminal thresholds for one, three, and five stimuli were evaluated; the liminal values decrease with increase of the number of stimuli. This decrease is most pronounced for red, less for green, and least for blue. This shows that the phenomenon observed cannot be explained on purely physical grounds.—A. Yarmolenko (Leningrad).
104. Shevarev, P. A. [Comparative visibility of simple geometrical figures.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 243-246.—The contrast discrimination for different geometrical figures lighter than the background was investigated. For the three figures investigated (a disk, a square, and an equilateral triangle) the threshold of contrast discrimination from the background under equal adaptation and brightness conditions proved to be identical.—A. Yarmolenko (Leningrad).

105. Shmarian, A. S. [On the physiology of optic psychosensory disorders.] *Sovetsk. Nevropatol.*, 1935, 4, No. 5, 23-36.—The states of unreality and strangeness of the external world in cases of disorders of the higher cortical optic sphere are not local disorders. There is a disturbance of the mutual innervation of this sphere and the deepest centers of the brain stem. The various types of dream-like disorders of consciousness can be treated from I. P. Pavlov's point of view as different grades of cortical inhibition. The role of proprioception in the formation of optical concepts shows that the disorders of the inner optical field in depersonalization are subject to the same laws as the disorders of conception of outward objects.—A. Yarmolenko (Leningrad).
106. Smirnov, A. A. [Dependence of contrast sensitivity upon the size of objects.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 120-126.—An experimental research was carried out which corroborated the statement that the contrast discrimination of a light-adapted eye increases with the increase of the size of the object. A mathematical formula for the phenomena observed is given.—A. Yarmolenko (Leningrad).
107. Smirnov, A. A. [Dependence of visual acuity upon the size and position of objects.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 226-236.—The author investigated visual acuity and its dependence upon the size and position of objects, and found that visual acuity increases with the size of the object. Narrow and long objects are better discerned in the horizontal position. Black objects on a white background offer no advantage in comparison with white objects on a black background when they are narrow.—A. Yarmolenko (Leningrad).
108. Smirnov, A. A. [Dependence of the constancy of size perception of objects upon distance and the angle with the fixation line.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 256-263.—Experiments were carried out corroborating the constancy of size perception of objects exposed in perspective. The constancy depends upon distance and angle of the fixation line.—A. Yarmolenko (Leningrad).
109. Smirnov, A. A., & Volokitina, M. N. [Dependence of the constancy of size perception upon the relative intervals between objects at different distances from the observer.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 263-267.—The constancy of size perception was evaluated and the following qualities were measured: (1) the degree of constancy of the size perception for different intervals between objects at different distances from the observer; (2) the decrease of constancy with the increase of intervals and of distance; (3) the rate of the decrease of constancy in monocular vision.—A. Yarmolenko (Leningrad).
110. Smit, J. A. On the influence of intensity and wave-length of light on the electrical phenomena of the eye. *Acta brev. néerl. Physiol.*, 1934, 4, 15-17.—(Biol. Abstr. IX: 11487).
111. Stebbins, J. R. The accepted standards of convergence requirements are insupportable. *Amer. J. Optom.*, 1935, 12, 366-369.—R. J. Beitel, Jr. (American Optical Company).
112. Stevens, S. S. A demonstration of positive and negative visual after-images. *Amer. J. Psychol.*, 1935, 47, 497-498.—D. E. Johannsen (Skidmore).
113. Stevens, S. S. The phenomenon of masking. *Science*, 1935, 82, 390-391.—A discussion concerning the application of the term "masking" for central phenomena or peripheral phenomena. (See Thompson, *Science*, 1935, 82, 221.) "Three considerations counsel against the attempt to limit the meaning of masking to a central phenomenon: (1) The term is too widely current to allow such arbitrary restriction to gain acceptance. (2) In most cases of observed masking in the various sense departments we are still ignorant of the physiological mechanisms underlying the phenomenon. (3) In some cases (as in audition) masking has both peripheral and central causes, and it is quite possible that occurrences at intervening synaptic junctions provide additional causal factors."—R. Goldman (Clark).
114. Stroop, J. R. The basis of Ligon's theory. *Amer. J. Psychol.*, 1935, 47, 499-504.—A critique of Ligon's "three-factor" theory to account for the difference in speed in naming and in reading colors. It is suggested that Ligon mistook statistical for experimental results.—D. E. Johannsen (Skidmore).
115. Takahasi, H. The change of eye accommodation caused by labour. *Jap. J. appl. Psychol.*, 1935, 3, 155-164.—Though diurnal change of eye accommodation is relatively small when one is not at work, there is a certain tendency to be somewhat greater from 9 a. m. to 2 p. m. than at 7 a. m., and it becomes smaller again after 2 p. m. The near point seems to increase and the far point to decrease in proportion to increase of severity of work, the change of the latter being particularly remarkable. It recovers to a certain extent when rest is interposed in the working period, but a rest of two short intervals is of no effect.—R. Kuroda (Keijo).
116. Teplov, B. M. [Interaction of simultaneous visual sensations.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 2-85.—The paper gives a critical survey of facts and theories concerning the interaction of simultaneous visual perception. The author defines the difference between positive and negative induction. There are described: inductive changes of brightness, color and saturation, of flicker frequency, of absolute sensitivity, contrast sensitivity, and chromatic sensitivity. The existing theories of induction are criticized.—A. Yarmolenko (Leningrad).
117. Teplov, B. M. [Spatial thresholds of vision.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 194-225.—A survey of literature and the authors' yet unpublished experiments treats the subject of minimum visible, separable and cognoscible under different conditions.—A. Yarmolenko (Leningrad).

118. Teplov, B. M., & Sokolova, I. M. [Measurement of saturation thresholds for pigments.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 180-188.—Saturation thresholds for red, yellow, and blue colors of different purity were estimated. The saturation threshold was found to increase with the increase of purity. This dependence is a linear one down to low degrees of purity (under 10%).—A. Yarmolenko (Leningrad).
119. Teplov, B. M., & Yakovleva, S. P. [The law of spatial and temporal color mixing.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 189-194.—A special device was constructed to compare directly the results of spatial and temporal color mixing. The results, contrary to those of Lempitzka, were identical for both types of fusion. This contradiction is due to certain technical defects in Lempitzka's experiments, carefully eliminated by the present methods.—A. Yarmolenko (Leningrad).
120. Thier, P. F. X. Action-currents of the retina on irradiation with radium. *Acta brev. néerl. Physiol.*, 1934, 4, 17-19.—(*Biol. Abstr.* IX: 11488).
121. Tsukamoto, H. Zur Physiologie der Binnenhörmuskel. (On the physiology of the inner ear muscles.) *Z. Biol.*, 1934, 95, 146-154.—(*Biol. Abstr.* IX: 11489).
122. Turville, A. E. Refraction and migraine. *Amer. J. Optom.*, 1935, 12, 336-361.—Migraine is defined as a "paroxysmal headache, sometimes unilateral, sometimes bilateral, usually temporal and frontal, attended by symptoms of gastric disturbance and usually by visual disturbances. The visual disturbances are called 'scintillating scotoma' or 'fortification spectrum'." The eyes of 123 migrainous patients were examined for possible refractive errors, muscular imbalances, etc. The results show that, although the majority of the patients had good visual acuity, only 7 out of the 123 cases were found not to have demonstrable errors of refraction. "This supports any suggestion that attacks may be caused, or precipitated, by auto-correction of refractive errors. . . . Therefore auto-correction of the refractive errors was habitual and carried to the extent approximating normal visual acuity as far as possible. . . . There is nothing in the data to suggest that any particular error of refraction is more liable to cause migraine. It rather suggests that any error may be the cause or precipitating factor." A summary of the reports given subsequently by the cases after the use of the optical corrections prescribed is as follows: complete relief, 69; scintillations and headaches less frequent and severe, 17; isolated attack in the period under review, 11; not reported, 26.—R. J. Beitel, Jr. (American Optical Company).
123. Verrier, M. L. Les variations de la forme des cellules visuelles et la théorie de la dualité de la vision. (Variations in the form of visual cells and the theory of duality in vision.) *Bull. Soc. zool. Fr.*, 1935, 60, 193-197.—The author, who is interested in the theory of duality of vision, compares certain retinal types which differ somewhat in respect to the visual cells. The catfish was used, which possesses elements of two kinds: certain forms which possess an external cylindrical, voluminous segment with globular ellipsoids joined to the nucleus by a long, thin thread; and other forms which alternate almost regularly, appearing in the form of the typical cone found in vertebrates. The retinae of these animals when exposed for a period of six hours to daylight or to complete darkness showed modifications of the forms of the visual cells. Under light conditions the rods have a definitely elongated myoid structure, while the cones show the contrary condition.—M. H. Piéron (Sorbonne).
124. Wada, Y. The influence of tonal backgrounds upon time-errors in the successive comparison of intensity of tones. *Jap. J. Psychol.*, 1935, 10, 391-408.—Frequencies of tones, 101 and 800 d. v., which were used as a tonal background were produced with a dynamic cone actuated by an electric tube oscillator. Their intensity was varied by means of variable resistance inserted in the circuit and the temporal relations of stimuli were controlled with Meumann's time-sense apparatus. O's were obliged to judge whether the second stimulus is stronger than, weaker than, or equal to the first one with respect to intensity. It was observed that when the tonal backgrounds were stronger than the tones of the pair to be compared, the results were somewhat irregular, but it seems that the positive time errors tend to increase with the time intervals, which agrees with Lauenstein's results. As for the experiments in which the backgrounds were weaker than the tones of the pair it was made out that (1) as the intensity of the background was increased, at first the positive time errors increased up to a certain limit, then shifted in the negative direction, and finally negative time errors appeared. But these again increased up to a certain point and then decreased. This is akin to contrast and assimilation in geometrical optical illusions. (2) With decrease of the intensity of the standard stimulus, the background being kept constant, time errors shifted from the positive to the negative. (3) But no such tendency appeared unless accompanied by a tonal background. (4) With the exception of extreme cases, the form of curves which show changes of time errors with prolonged time intervals did not vary remarkably with the increase in the intensity of the background. (5) When the background was rather strong, negative time errors appeared even at a short time interval.—R. Kureda (Keijo).
125. Wagner, R. Über Versuche zur Schallwiedergabe mit Membranen, die nach Art der Helmholtz'schen Basilmembran schwingen. (Investigations on sound reverberation with membranes which oscillate in the manner of the basilar membrane of Helmholtz.) *Z. Biol.*, 1934, 95, 311-326.—(*Biol. Abstr.* IX: 11490).
126. Wallis, W. A. The influence of color on apparent size. *J. gen. Psychol.*, 1935, 13, 193-199.—An attempt was made to obtain a quantitative measure of the effect of color upon apparent size.

There was a definite color-size illusion, and for the six colors used, yellow was largest, white was second, red third, green fourth, blue fifth, and black smallest.—H. Cason (Wisconsin).

127. Weber, C. O., & Bicknell, N. The size-constancy phenomenon in stereoscopic space. *Amer. J. Psychol.*, 1935, 47, 436-448.—"The tendency of phenomenal regression to real size (Thouless) was studied in three experiments with two sets of stereoscopic slides, each set made up of photographs of disks of various sizes, photographed at three distances and with varying degrees of disparation. In all three experiments 46 O's were used under varying conditions of procedure having in common the requirement that O was to gauge the phenomenal areas of the disks seen, whether in or out of the stereoscope, and to select a disk of equal area from a set of comparison circles varying in area." The results show a pronounced tendency of O to see photographed objects much nearer their real size than measurements of the photographs warrant, although the restoration of real size is never complete. Knowledge has no appreciable effect upon this result. Without the stereoscope the phenomenon is still present, though reduced. Age and sex differences are small, individual differences large.—D. E. Johannsen (Skidmore).

128. Wolf-Heidegger, G. Ein einfacher Versuch zum Nachweis der binocularen Farbenmischung und zum Nachweis des Wettstreits der Sehfelder. (A simple attempt at demonstration of binocular color mixture and of competition between visual fields.) *Z. Biol.*, 1934, 95, 327-328.—(*Biol. Abstr.* IX: 11492).

129. Yakovenko, V. O. Britanski efektivni (ETB) ta ekvivalentni (EETB) temperaturi. (The British effective—EBT—and equivalent—AEBT—temperatures.) *Méd. exp. Kharkov*, 1935, No. 2, 90-99.—The importance of determining the thermal sensitivity of man in the air directs our attention to the new index of such sensitivity proposed by Dufton and others—the so-called British AEBT by which the effects of temperature, air movement and radiant thermal energy may be determined. Importance likewise attaches to the new apparatus—the "eviateoscope"—by which the sensibility may be given approximately in terms of EGB. On the basis of this work the Institute of Experimental Medicine (Ukraine) is now elaborating scales of Soviet effective temperatures (SUET) establishing the influence of these factors upon man.—F. S. Keller (Colgate).

130. Yakovlev, P. A. [Influence of an acoustic stimulation upon the visual-field limits.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 127-132.—The limits of the visual field for green were experimentally determined. If a simultaneous acoustic stimulus were given, the limits showed a quite perceptible expansion. The same effect was produced by eliciting the pupillary reflex in the eye under control.—A. Yarmolenko (Leningrad).

131. Yamane, K. Untersuchungen über taktil-motorische Figurwahrnehmung. (Studies on tactual-motor perception of figures.) *Jap. J. Psychol.*, 1935,

10, 327-390.—Difference in figure perception between normal and blind persons depends upon the fact that in the former it is accomplished through the visual sector, in the latter through the tactual-motor sector. The dynamic field established simultaneously in the tactual-motor perception of figures seems to be more limited than in visual perception. As one of its determining conditions it is conceivable that in this sector different parts of a figure are each successively perceived, but it should also be taken into account that the difference in both forms of perception does not depend merely upon objective temporal and spatial conditions of stimuli which are peripherally given.—R. Kuroda (Keijo).

132. Yudkin, A. M. Vitamins. Clinical evidence of necessity of vitamins for function of ocular tissue. *Arch. Ophthalm.*, Chicago, 1935, 14, 112-126.—A review of the present state of knowledge concerning vitamins, particularly as related to ocular disorders. The sources and chemical natures of the various vitamins are discussed; behavior disturbances and pathological conditions arising from vitamin deficiencies in animals and in man are indicated; and the value of vitamin therapy in these cases is considered.—M. R. Stoll (Massachusetts Eye & Ear Infirmary).

[See also abstracts 24, 170, 173, 181, 185, 189, 196, 227, 240, 262, 286, 293, 296, 306, 310, 311, 313, 315, 320, 461, 483, 517, 546, 560, 561, 562, 565.]

FEELING AND EMOTION

133. Chaney, H. K. Motor aspects of emotional instability. *Psychol. Bull.*, 1935, 32, 530.—Abstract.—J. F. Dashiell (North Carolina).

134. Kendrew, E. N. A note on the persistence of moods. *Brit. J. Psychol.*, 1935, 26, 165-173.—The experiment was devised to test the possibility of achieving a technique for measuring the degree of persistence of moods experimentally aroused in young children. The children observed may be divided into three groups. In 9 out of 20 cases, disappointment experimentally aroused (by preventing the child from playing with a toy which he had just been allowed to choose) appeared to produce persistent effects of a diminishing order of magnitude on the subsequent activity, threading beads. In 8 cases the persistent effect was of an increasing order of magnitude; and in 3 cases there was no noticeable effect. In several cases a persisting conative activity showed itself in general behavior, but the emotional disturbance had a greater effect on the natural rate of working. Two children delayed the effect of disturbance by a determined effort.—M. D. Vernon (Cambridge, England).

135. Landis, C., & Hunt, W. A. The conscious correlates of the galvanic skin response. *J. exp. Psychol.*, 1935, 18, 505-529.—A group of observers differing widely in psychological experience and systematic bias and including some psychopathic cases were submitted to a wide range of stimulus situations while their galvanic skin responses were being measured. They were asked to introspect on

the conscious correlates accompanying the various stimuli. The results show that the galvanic skin response is not associated to any marked degree with any one variety of stimulus or conscious state. It seems to be more nearly related to startle or to tension than to anything else. The authors conclude that the GSR is a fairly adequate indicator of change of direction of mental activity, but in no sense is it an adequate or direct measure of these changes. It is suggested that the findings be interpreted in terms of the participation of the sympathetic division of the autonomic nervous system.—*H. W. Karn* (Pittsburgh).

136. Meerloo, A. M. Over haat en collectieven haat. Een poging tot begripen van het anti-semitisme. (Individual and collective hatred. An attempt at understanding anti-semitism.) *Mensch en Maatsch.*, 1935, 11, 352-364.—Individual hatred is based on narrow orientation; extension of the field of vision diminishes hatred, self-analysis destroys it. In the same manner, collective hatred is anti-intellectual (hence anti-semitic). In the individual, fundamental urges are ambivalent. Over-indulgence turns desire for incorporation (hunger, sex) to hatred of the once satisfying object (nausea, repulsion). Hatred is also a favorite outlet for fear, feelings of insufficiency and insecurity, because it magnifies the hater in his own estimation. Feelings of isolation, of impotence and of being surrounded by a hostile world are easily converted into mass hatred. Moreover, the more primitive Nordic envies (hence hates) the more cultured and sophisticated Jew because he recognizes the superiority of the latter's drives and aims. This collective, exogenous hatred saves the individual psychic energy needed to motivate his endogenous hatred. The character of a group is determined by the strength of its internal solidarity, its cultural level and its collective aims. Whatever threatens any of these is considered hostile to the group. The predominant mythological trend of the German is contrasted with the rational attitude of the Jew, and the former's nationalism with the latter's cosmopolitan interpretation of justice and right. Both are seen as differences in cultural level, giving rise to suppression of the digressing minorities (pacifists, Jews, etc.). Political leaders and the press should understand that mass hatred and collective fear should be led into culturally productive channels lest they destroy the group, since no really strong group knows enemies.—*H. Beaumont* (Kentucky).

137. Nice, L. B., & Katz, H. L. The specific gravity of the blood of normal rabbits and cats and splenectomized rabbits before, during and after emotional excitement. *Amer. J. Physiol.*, 1935, 113, 205-208.—An increase in specific gravity of the blood which was immediate and marked was found after production of excitement as described in a previous article. This increase is explained as being due to three probable factors, viz., discharge of blood corpuscles from the spleen, the pouring of products of tissue metabolism into the blood stream, and a slight shift of water into the tissues.—*T. W. Forbes* (N. Y. Psychiatric Institute).

138. Nice, L. B., Katz, H. L., Fishman, D., & Friedman, D. L. The non-filament and filament neutrophil count during emotional excitement. *Amer. J. Physiol.*, 1935, 113, 102.—"The cytology of the blood of rabbits was studied in the quiet state and during emotional excitement (fear, anger, pain). It was found that a definite leucopenia took place during the latter condition in these rabbits. . . . There was no indication of an increased supply of new neutrophils being set free from the red bone marrow during excitement."—*T. W. Forbes* (N. Y. Psychiatric Institute).

139. Taylor, N. B., Weld, C. B., & Sykes, J. E. Ergotoxin and rage. *Amer. J. Physiol.*, 1935, 113, 129.—"The administration of ergotoxin phosphate intravenously to cats (0.5 mgm. per kgm.) produces with great regularity a condition of apparent rage, simulating closely the 'sham rage' described by Cannon and by Bard. The reaction is 'central' and is probably caused by functional removal of cortical inhibition from the rage center, as evidenced by the following points: (1) Rage, limited to the head region, is still obtained by ergotoxin after sectioning the cervical cord. (2) Adrenalectomy does not abolish the response. (3) A conditioned reflex (salivary) is either abolished or much reduced. (4) No striking change in body temperature occurs. (5) Toxic doses of parathormone or irradiated ergosterol, known to cause exaggeration of central inhibitory processes, do not abolish the rage response. (6) Decerebrate rigidity may be abolished, and a transient loss of extensor tone often follows ergotoxin administration. (7) Dogs fail to show rage but exhibit these postural changes to a marked degree."—*T. W. Forbes* (N. Y. Psychiatric Institute).

140. Whitehorn, J. C., Kaufman, M. R., & Thomas, J. M. Heart rate in relation to emotional disturbances. *Arch. Neurol. Psychiat.*, Chicago, 1935, 33, 712-731.—Heart rate was recorded in 48 subjects, of whom 29 were psychotic patients, by means of the Boas cardiograph and the Fleisch Zeitschreiber. Brief accelerations were frequently found at moments of fleeting emotion as determined by introspective observation and by word-association experiments. More profound emotional disturbances elicited by "heart-to-heart" talks gave more marked and persisting cardiac accelerations.—*D. G. Marquis* (Oxford, England).

[See also abstracts 337, 626, 673.]

ATTENTION, MEMORY AND THOUGHT

141. Blondel, M. La pensée. Les responsabilités de la pensée et les possibilités de son achèvement. (Thought. The responsibilities of thought and the possibilities of its achievement.) Paris: Alcan, 1935. Pp. 558. 60 fr.—This book is a second volume of a complete work on thought. It deals especially with spontaneity and liberty in the development of intellectual life and the possibilities and conditions underlying the achievement of thought. The book is divided into four parts. The first treats of the duality of thought; the second covers the education of thought

and the value and precision of civilized thought; the third is devoted to the natural deficiency and the rational exigency of our thinking; while the fourth treats of the integrity of thought (thought and the spirit, the access to spiritual life, and the achievement of thinking).—*M. H. Piéron* (Sorbonne).

142. **Brown, W.** On the law of effect. *Psychol. Bull.*, 1935, 32, 528.—Abstract.—*J. F. Dashiell* (North Carolina).

143. **Buttenwieser, P.** The relation of age to skill of expert chess players. *Psychol. Bull.*, 1935, 32, 529.—Abstract.—*J. F. Dashiell* (North Carolina).

144. **Duncker, K.** Zur Psychologie des produktiven Denkens. (The psychology of productive thought.) Berlin: Springer, 1935. Pp. vii + 135. RM 9.60.—This is an experimental study of the thought processes in practical and technical problems and exercises involving mathematical proof. The author describes the processes by which the premises or the conclusion, or both, change their structure in consequence of their opposing claims, and undergo mutually adequate reorganization. Other subjects treated are the processes of solution, and especially its subordinate and previously overlooked phases; delimitation of evaluation and the Gestalt continuation of Selz's anticipation of resonance theory of search; and a structural analysis of phenomenal causality. Duncker also contributes to the theory of endowment and attempts a theory of insight, of which he distinguishes two varieties, hitherto usually confused.—*W. Metzger* (Frankfurt).

145. **Ferguson, H. H.** An association scale? A preliminary investigation. *Aust. J. Psychol. Phil.*, 1935, 13, 232-234.—The scores of 44 students on the Kent-Rosanoff free association test, calculated from the frequency table, had considerable range and showed normal distribution. Such scores do not correlate with class marks. "Association scales" resembling intelligence tests are therefore proposed, to yield an A. Q. for supplementing the I. Q. Perhaps association scales formed from the Rorschach test would be superior for this purpose to word associations.—*H. D. Spoerl* (Northeastern).

146. **Gray, J. S.** A neglected phase of educational research. *J. educ. Res.*, 1935, 29, 83-90.—The author shows that problem solving, in the educational field or elsewhere, is essentially the same as good thinking. The differences between good thinking on educational and other kinds of problems consist only in the data, the methods by which it is obtained, and its evaluation. One always starts with an hypothesis drawn from the data, and experiment consists in arranging conditions to test the validity of this hypothesis.—*S. W. Fernberger* (Pennsylvania).

147. **Jenkin, A. M.** Imagery and learning. *Brit. J. Psychol.*, 1935, 26, 149-164.—Nonsense drawings were recalled by adults and children immediately and after five weeks, in response to the nonsense names which had been associated with each set of them; and drawings of real objects were recalled in response to real names associated arbitrarily with each set. It

was found that visual imagery played but a small part in the recalls. The majority of the images did not furnish memory knowledge but accompanied it. The children gave more instances of visual imagery than the adults, but fewer correct recalls; some eidetic imagery occurred. Words were the main medium in which figures and objects were recalled, and by which concepts were found; analogies were the main form of words used. With the nonsense material the formation of new concepts was important in recall, but with the sense material the subjects' previous concepts were utilized, and a concept of a set was a modification of a pre-existing idea.—*M. D. Vernon* (Cambridge, England).

148. **McGeoch, G. O.** The age factor in reminiscence: a comparative study of preschool children and college students. *J. genet. Psychol.*, 1935, 47, 98-120.—Two sets of learning materials of approximately equal ease of learning by the two ages were learned under identical conditions, and recalls were demanded immediately and after 24 hours. There were no significant differences between the children and the college students with respect to reminiscence (improvement of recall of incompletely learned material after an interval of no relearning). No tendency was found for reminiscence to vary with intelligence, degree of learning, speed of recall, the individual learner, or intentional rehearsal.—*J. F. Dashiell* (North Carolina).

149. **McKinney, F., & McGeoch, J. A.** The character and extent of transfer in retroactive inhibition: disparate serial lists. *Amer. J. Psychol.*, 1935, 47, 409-423.—"The problem of the present experiment was to seek for evidence of overt transfer under conditions which would permit it to become apparent, if present, and thereby to define more clearly the transfer theory." Adjectives were learned by the method of complete presentation, and tested for delayed recall. In one experiment an interpolated list of synonyms followed the series, in the other no formal learning was present. The results showed that the amount of transfer from the interpolated list to the original is much larger than that from the original list to the interpolated, but enough of the latter occurs to imply that retroactive inhibition is a two-way interference phenomenon. The facts imply that the temporal locus of the inhibition is at the time of recall. The actual interference effects resulting from transfer are only partially represented by the cases of overt transfer. "The results constitute direct evidence for transfer as one major condition of retroactive inhibition. The most probable interpretation is that transfer is the chief determiner of at least a much larger percentage of the inhibition than can be accounted for by overt transfer alone."—*D. E. Johannsen* (Skidmore).

150. **Müller-Freienfels, R.** Probleme praktischer Gedächtnisschulung. (Problems of practical memory training.) *Industr. Psychotech.*, 1935, 12, 65-71.—The author compares the mistakes and merits of the reproductive mechanical mind and the productive variable mind and illustrates the comparison with

examples in musical instruction, mathematics and languages.—H. J. P. Schubert (Transient Center, Buffalo).

151. Pauli, R. Zahl- und Mengenauffassung bei kurzdauernder Darbietung (nach Versuchen von H. Kaulla). (Span for numbers and groups in short exposures; from the researches of H. Kaulla.) *Ber. Kongr. dtsch. Ges. Psychol., Leipzig*, 1934, 13, 159-162.—R. R. Willoughby (Clark).

152. Rosinsky, J., Lebedinsky, M., & Guryanov, E. [Mental work and its organization.] Moscow: Uchpedgiz, 1934. Pp. 252.—This handbook for students contains theoretical fundamentals of the scientific organization of mental work as well as methods for its organization. The psychological bases for self-organization of memory, thought, attention, the hygiene of mental work, its planning and performance are given.—A. Yarmolenko (Leningrad).

153. Schadeberg, W. Ueber den Einstellungscharakter komplexer Erlebnisse. (The mental-set character of complex experiences.) *Neue psychol. Stud.*, 1934, 10, No. 4. Pp. 69.—R. R. Willoughby (Clark).

154. Serebrinsky, B. Contribución al estudio de la asociación de ideas mediante una modificación de la prueba Mira. (A contribution to the study of the association of ideas by means of a modification of Mira's test.) *Rev. Psicol. Pedag.*, 1935, 3, 75-82.—Serebrinsky applied Mira's PP test in collective form to 1000 school children between 8 and 15 years in Concordia, Argentina, by having them write during a period of 5 minutes as many words as possible beginning with P. The test was repeated three times at intervals of a month. The effect of practice was evident. After writing all the words they could think of beginning with P, they began to "chase" words, which pursuit gave a valuable insight into their associative processes. The author's conclusion is that Mira's test is a test of aptitude, and very interesting as a preliminary examination of the associative processes in childhood. The data are tabulated.—M. E. Morse (Baltimore).

155. Waters, R. H., & Peel, Z. E. Similarity in the form of original and interpolated learning and retroactive inhibition. *Amer. J. Psychol.*, 1935, 47, 477-481.—"This investigation was undertaken as a further check on the hypothesis that interpolated activity similar in nature to the original will result in greater retroactive inhibition than if the interpolated activity differs in form from the original." Lists of words were learned by the method of paired associates; the interpolated activity was learning lists of words serially. Results showed that the retroactive inhibition was greater when the method of learning the interpolated material was the same as that used in the original learning. It was found, however, that fewer trials were necessary to complete the learning of the original material when original learning was followed by interpolated learning similar in form to the original. It is suggested that either the perseveration or transfer theories may be used to interpret these data, but the second result obtained

suggests that the explanation of retroactive inhibition should be thought to rest upon general set or attitude rather than upon particular neural elements.—D. E. Johanssen (Skidmore).

[See also abstracts 192, 224, 242, 252, 261, 677.]

NERVOUS SYSTEM

156. Aring, C. D. Shivering and the cerebral cortex. *Amer. J. Physiol.*, 1935, 113, 3.—"Monkeys and baboons with various ablations of limited areas of the cerebral cortex, or with lesions of the cerebellum, were placed suddenly in a reduced environmental temperature; the shivering response and rectal temperatures were compared with those of normal animals in the same circumstances and with the same animals before operation. Significant deviations of these responses from the normal were found in all animals with partial or complete unilateral or bilateral ablation of the motor area (area 4). In this group there quickly occurred vigorous, symmetrical shivering in response to cold, frequently before a drop in the rectal temperature. . . . Animals with unilateral section of the cerebellar peduncles exhibited shivering ipsilaterally which appeared irregular in pattern, and possibly mildly uncoordinated as compared with that of the opposite extremities. In one animal a chordotomy severing the rubrospinal tract prevented shivering in the region innervated from behind the lesion. It is concluded that normal inhibition of the shivering response is mediated through the motor projection fibres from area 4."—T. W. Forbes (N. Y. Psychiatric Institute).

157. Barris, R. W. Disposition of fibers of retinal origin in the lateral geniculate body. Course and termination of fibers of the optic system in the brain of the cat. *Arch. Ophthalm., Chicago*, 1935, 14, 61-70.—Photographs of sections of the left and right geniculate bodies of a man whose right eye had been removed some time earlier show atrophy of three of the six cellular laminae in each case, but the laminae which were atrophied in the left geniculate body remained normal in the right and vice versa. Diagrammatic drawings indicate similar findings in controlled experiments on cats; enucleation of one eye caused atrophy of one (the pars posterior) of the four cellular laminae in the homolateral geniculate body and atrophy of the other three laminae in the contralateral body. A summary is included of relevant findings concerning the relationship of the various fibers of the optic system to the midbrain and diencephalon of the cat.—M. R. Stoll (Massachusetts Eye & Ear Infirmary).

158. Bergouignan, —, & Verger, P. Les réactions labyrinthiques chez le chien après lésion du noyau caudé. (Labyrinthine reactions in the dog following a lesion in the caudate nucleus.) *C. R. Soc. Biol., Paris*, 1935, 118, 1539-1541.—The authors studied the behavior of dogs with lesions in the caudate nucleus, using rotatory tests, cocaineization of the labyrinths, and cocaine intoxication. They investigated the question whether the central gray nuclei of the brain are in a functional relation with the central laby-

rinthine pathways. They found that the presence of a lesion in the caudate nucleus prevented the appearance of skilled movements, due either to a deficiency in the labyrinth on the opposing side or to a stimulation in the labyrinth on the same side. It seemed as though the lesion in the caudate nucleus facilitated all the spontaneous or incited rotatory reactions on the side of the nucleus, while it counteracted reactions in the inverse direction.—*M. H. Piéron* (Sorbonne).

159. Blair, E. A., & Erlanger, J. Observations on the development of electrical excitation in nerve. *Amer. J. Physiol.*, 1935, 113, 12.—"Spontaneous variations in the response time of alpha axons to rheobasic currents have previously been demonstrated with the cathode ray oscillograph. This play of response time is referred to spontaneous changes in irritability occurring during a plateau of excitation lasting ordinarily nearly 1.5 ms. The curve of excitation as indicated by the response pattern to rheobasic currents, as indicated by the shock voltage method, does not agree temporally with the curve for sub-rheobasic currents. This discrepancy is referable to the fact that the time required for the exciting effect of the shock to sum with that produced by a constant current to the point of stimulation varies temporally with imposed conditions. Thus in normal nerve excitation following a shock reaches maximum after a delay of 0.3 ms. and in nerve under threshold polarization delay is about doubled and the rate of decline decreased. When these factors are discounted the plateau becomes an expression of the relatively steady state of excitation indicated by the play of response time. The end of the plateau as represented by the angle in irritability curves determined by the shock method and by the longest response times has a temperature coefficient much higher than that of the beginning of the plateau similarly measured. . . . The fact that the increasing excitation following, and during, a shock or a constant current can be modified by an opposing potential (anodal shock) indicates that the decrease in threshold is referable to a change of potential at the responding locus. This electrical change in the latter case reaches a maintained, effectively stable maximum at 1.6 ms. The delayed onset of the depression in irritability (3.0 ms.) that terminates this state is assigned to the time required for the passage of ions ($K + ?$) by diffusion through the Nernst membrane."—*T. W. Forbes* (N. Y. Psychiatric Institute).

160. Bodechtel, G. Anatomie, Physiologie, Pathologie und Klinik der zentralen Anteile des vegetativen Nervensystems. (Anatomy, physiology, pathology and clinical manifestations of the central part of the vegetative nervous system.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 295-329.—This article deals particularly with investigations of various sorts on the mesencephalon. The first section is devoted to a résumé of the work done by a great number of investigators on the anatomy of the hypothalamus. The second section concerns histopathology. Further parts of this long article are concerned with physiology, particularly animal studies, and with clinical and pathological investigations. There is a long

bibliography giving only authors and references. The bibliography follows the same sectioning plan as the article.—*D. S. Oberlin* (Newark, Del.)

161. Bronk, D. W., Pumphrey, R. J., & Hervey, J. P. Synaptic transmission in a sympathetic ganglion. *Amer. J. Physiol.*, 1935, 113, 17-18.—"We have stimulated by means of a thyatron stimulator preganglionic fibres to the stellate ganglion of a cat and have recorded with an oscillograph the postganglionic impulses in the inferior cardiac nerve. Confirming the earlier work of Bronk, Solandt and Tower we find that at low frequencies of stimulation each preganglionic volley sets up a single postganglionic volley and that in addition there is a certain amount of temporal dispersion of impulses in the ganglion due to repetitive firing, different latencies or both these effects. At frequencies above about 80 per second only the first few preganglionic impulses are transmitted as definite postganglionic volleys. These volleys rapidly decrease in size and disappear, apparently indicative of ganglionic block. That this is not the complete explanation of the phenomenon, however, is shown by the fact that stimulation of the preganglionic fibers at a frequency of 200 per second produces continued cardiac acceleration for some minutes. It is more probable therefore that the rapid stimulation so alters the properties of the ganglion that there is a marked temporal dispersion with a consequent smoothing out of the postganglionic activity. . . . There is a rapid recovery of the capacity for transmitting the first ten or fifteen preganglionic volleys and a much slower recovery of the capacity for sustained transmission of this type."—*T. W. Forbes* (N. Y. Psychiatric Institute).

162. Bucy, P. C. Frontal lobe of primates: relation of cyto-architecture to functional activity. *Arch. Neurol. Psychiat.*, Chicago, 1935, 33, 546-557.—The cellular structure of the frontal lobe of man, apes and monkeys is compared and correlated with the functional activities of its several regions as determined by stimulation and extirpation experiments. The relation of recent studies of cerebral localization to the problems of clinical medicine is also discussed.—*D. G. Marquis* (Oxford, England).

163. Bucy, P. C., & Case, T. J. Alterations in respiratory rate produced by electrical excitation of the cerebral cortex of dogs. *Amer. J. Physiol.*, 1935, 113, 20-21.—"In dogs, under light ether anesthesia, faradic stimulation of a small area of the cerebral cortex, about 5 mm. in diameter, lying oral to the anterior end of the coronal suture produces marked diminution in the respiratory rate. The amount of diminution varies with several factors, the most important of which are the depth of anesthesia and the intensity of the stimulus. With very strong stimulation apnea can be produced for short periods of time. Diminution in respiratory rate cannot be obtained from neighboring portions of the cortex except with stimuli of great intensity and the results are interpreted as due to spread of the electrical effect to the area described. Apnea has not been obtained from any other portion of the cortex. . . .

The effect on respiratory rate is not influenced by extirpation of the sigmoid gyrus, incising the cortex and subcortical white matter cephalad to or superior to the effective area, but is destroyed by a deep incision posterior to the area. The effect is not altered by section of the vagi or phrenic nerves.—T. W. Forbes (N. Y. Psychiatric Institute).

164. Clark, D., Hughes, J., & Gasser, H. S. **Afferent function in the group of nerve fibers of slowest conduction velocity.** *Amer. J. Physiol.*, 1935, 113, 27-28.—"In cats it was consistently observed that for 15 minutes no changes take place in the electroneurogram; that rapid disappearance of 'A' and 'B' activity occurs from 15 to 25 minutes after asphyxia is begun, and that the 'C' fibers alone remain active after 30 to 45 minutes. These experiments furnish a striking parallel to those of Lewis, Pickering, and Rothschild, which were repeated here, using the sphygmomanometer cuff in man. In the human experiment no loss of sensation occurs for 15 minutes. From 15 to 25 minutes after inflation of the cuff there is rapid disappearance of touch, pressure, position, vibration, and cold sensations. After 30 to 45 minutes—at which time in the cat only the 'C' fibers are active—delayed recognition of warmth and of a severe burning pain were the only responses obtainable by any sort or intensity of stimulus. From these observations it is concluded that nerve fibers of slowest conduction velocity do have an afferent function and are responsible for the conduction of impulses interpretable as pain and warmth."—T. W. Forbes (N. Y. Psychiatric Institute).

165. Delmas-Marsalet, P. **Lobe frontal et équilibre.** (The frontal lobe and equilibrium.) *J. belge Neurol. Psychiat.*, 1935, 35, 458-470.—The author suggests the term coordination as being more descriptive than the vague term equilibrium, and discusses in detail the part played by the frontal lobe from the experimental, clinical and anatomical points of view. He comes to the following conclusions: From the experimental point of view the role of the frontal lobe in equilibrium cannot be doubted in the monkey and the dog. Clinical studies indicate that the frontal lobe is an auxiliary center for coordination which may be replaced by other regions of the nervous system. Anatomically speaking, the structure of the frontal lobe does not contradict its role in coordination or its inclusion of important functional localization areas.—H. Sys (Cornell).

166. Dye, J. A. **The exhaustibility of the sympathin stores.** *Amer. J. Physiol.*, 1935, 113, 265-270.—By the use of induction shocks at 15 per second and recording of nictitating membrane and blood pressure responses it was found that there is no appreciable exhaustion of sympathin production in 6 hours of separate responses and in from 30 to 78 minutes of continuous stimulation. The local production of sympathin was not exhausted at the end of 2 hours. It is concluded that the probability of the exhaustion of sympathin by normal bodily functions is extremely slight.—T. W. Forbes (N. Y. Psychiatric Institute).

167. Forbes, A., Derbyshire, A. J., Rempel, B., & Lambert, E. **The effects of ether, nembutal and**

avertin on the potential patterns of the motor cortex.

Amer. J. Physiol., 1935, 113, 43-44.—"The cortical potentials are recorded by means of silver-silver chloride electrodes on corresponding points of the cat's motor cortices connected to a direct-coupled amplifier and string galvanometer. The cortex under the grounded electrode is cauterized." Frequency and intensity observations were as follows: Moderate ether 30-60 per second and 25 microvolts and occasionally 1-3 per second at 50 microvolts, nembutal 5-20 per second at 200 microvolts, and moderate avertin 5-10 per second at 200 microvolts or more. Increased depth of anesthesia caused depression of fast waves and slowing of slow waves. Deep nembutal and avertin produced grouping of waves followed by loss of amplitude with still deeper narcosis. In general stimulation of the contralateral sciatic increased the amplitude of the type of waves already present, but might abolish slow waves if present under ether or nembutal. "Because the changes of pattern induced by these anesthetics follow parallel courses in spontaneous activity and in that evoked by stimulation, we conclude that they act not merely by blocking afferent impulses, but by modifying directly the activity of the cortex."—T. W. Forbes (N. Y. Psychiatric Institute).

168. Fox, J. C., & German, W. J. **Observations following left (dominant) temporal lobectomy.** *Arch. Neurol. Psychiat.*, Chicago, 1935, 33, 791-806.—Analysis of the aphasia which followed removal of the left temporal lobe in a right-handed adult male patient revealed a deficient auditory receptive mechanism and impaired retention of auditory speech memories. In contrast to this the visual mechanism suffered a relatively slight defect. Functional recovery after the operation showed two distinct phases: an early, rapid improvement, probably related to edema and vascular changes produced by the operation, and later a slowly progressive phase, apparently associated with reeducation, representing true restitution of function.—D. G. Marquis (Oxford, England).

169. Gesell, R., Bricker, J., & Magee, C. **Potentials associated with the respiratory act and their localization in the central grey axis stem.** *Amer. J. Physiol.*, 1935, 113, 48-49.—"Present indications are that a diffuse arrangement, possibly extending through the reticular formation of the medulla and greater length of the cord, is important in the nervous control of breathing. Further conclusions will be postponed awaiting a greater accumulation of records of potentials and their associated lesions."—T. W. Forbes (N. Y. Psychiatric Institute).

170. Ghiselli, E. E. **Spinal cord mechanisms involved in solving problems in sensory discrimination: I. The ability of rats with spinal cord lesions to discriminate differences in inclined planes.** *Psychol. Bull.*, 1935, 32, 534-535.—Abstract.—J. F. Dashiell (North Carolina).

171. Gibbs, F. A., & Davis, H. **Changes in the human electroencephalogram associated with loss of consciousness.** *Amer. J. Physiol.*, 1935, 113, 49.—"The most constant and pronounced fluctuations observable in the resting subject with these leads

(vertex to lobe of ear) have frequencies of from 10 to 20 per second, and attain a maximum of 60 microvolts. In sleep the frequency of these predominant waves decreases to between 1 and 5 per second. . . . If a subject becomes unconscious from breathing nitrogen, the frequency of his predominant waves decreases to between 1 and 5 per second, and the amplitude increases to about 100 microvolts. . . . If the subject overventilates his lungs sufficiently to produce clouding of consciousness, the same alterations in the electroencephalogram occur. An epileptic seizure is associated with the sudden appearance of large slow waves, having a frequency of 1 to 5 per second and an amplitude of more than 100 microvolts. These waves may amount to as much as 500 microvolts."—T. W. Forbes (N. Y. Psychiatric Institute).

172. Grundfest, H., & Cattell, McK. Some effects of hydrostatic pressure on nerve action potentials. *Amer. J. Physiol.*, 1935, 113, 56-57.—"The following effects have been observed for moderate pressures (5000 to 8000 pounds per square inch). Under pressure a single shock results in a second response in fibers of lowered threshold, giving rise to a well marked elevation from about 1.3 to 2.8 σ after the start of the conducted A wave. A lowering of the threshold of excitation occurs beginning with pressures of about 1500 pounds. The repetitive responses occur, however, only with pressure above 4000 pounds. . . . With higher pressures (8000 to 15,000 pounds per square inch) the size of the action potential is decreased, the threshold greatly increased, and the conduction rate markedly slowed. All these changes are completely reversed with the release of pressure. Immediately following release of pressure there is a marked increase in threshold, which subsides after a few minutes."—T. W. Forbes (N. Y. Psychiatric Institute).

173. Hartline, H. K. Impulses in single optic nerve fibres of the vertebrate retina. *Amer. J. Physiol.*, 1935, 113, 59-60.—Action currents were recorded from the fibres from the frog retina near the head of the optic nerve. Four different types of response were obtained, i.e., an initial burst followed by a small discharge; an initial burst only, with very slight "off effect"; no initial burst but a gradual building up together with definite "off effect"; and no response during illumination with vigorous "off effect." It is supposed that these variations in type of response are due to modification of the sensory discharge by nervous elements between the sensory cells and the optic nerve.—T. W. Forbes (N. Y. Psychiatric Institute).

174. Hoagland, H. A humoral mechanism for peripheral sensory inhibition. *Amer. J. Physiol.*, 1935, 113, 65.—"Frequencies of nerve impulse potentials recorded from single axons which branch and form tactile free-ending receptors in frog's skin have been used to study adaptation (failure in frequency of the impulses) in response to pressure. Adaptation to constant pressure is very rapid, but to an interrupted air jet it may be slow and is a quantitatively determinable function of properties of the interrupted jet.

Adaptation is not produced by the activity of the ending itself since electrically initiated antidromic impulses backfired into the endings are without effect in hastening adaptation to an intermittent air stimulus applied immediately afterward. Gradual application of a non-interrupted air jet which sets up no impulses nevertheless inhibits the endings and renders them unresponsive to an immediately subsequent, normally adequate, interrupted jet. Intermittent air jet stimulation to a region of the skin several millimeters distant from a responsive ending also inhibits the ending to a normally adequate intermittent stimulus applied immediately afterward. These facts suggest the spread of an inhibitory humor released from cutaneous cells by the stimulus. . . . The experimental evidence is consistent with the hypothesis that pressure releases, from non-nervous cutaneous cells, potassium which, by temporarily accumulating around the nerve endings, reduces their excitabilities by raising the amount of potassium (K_o) outside of the axon branches and thus reducing the ratio of potassium in the nerve fibers to that outside ($K K_o$), upon which their excitabilities depend."—T. W. Forbes (N. Y. Psychiatric Institute).

175. Hughes, J., McCouch, G. P., Snape, W. J., & Stewart, W. B. Inhibition in internuncial neurons. *Amer. J. Physiol.*, 1935, 113, 68-69.—"Gasser and Graham described the cord potential following a single break shock to a dorsal root as consisting of a spike followed by slow negative waves often succeeded by a prolonged positive wave. Hughes and Gasser . . . concluded that the spike is the potential of afferent fibers and that the subsequent components arise in the internuncial neurons. The present work concerns the effect upon the cord potential of a preceding volley from a contralateral dorsal root in the acute spinal cat. At intervals showing inhibition in the isometric myogram of ipsilateral tibialis anticus there is a reduction in the first slow negative component of the cord potential approximating the percentage of contraction inhibited. Accepting the validity of Hughes and Gasser's conclusion, our result is interpreted as evidence that much of the inhibition occurs in the internuncial neurons."—T. W. Forbes (N. Y. Psychiatric Institute).

176. Jacobsen, C. F., & Haslerud, G. M. Restitution of function after cortical lesions in monkeys. *Psychol. Bull.*, 1935, 32, 563-564.—Abstract.—J. F. Dashiell (North Carolina).

177. Kabat, H., Anson, B. J., & Magoun, H. W. Electrical stimulation of the hypothalamus in the waking animal. *Amer. J. Physiol.*, 1935, 113, 74.—"By cementing the electrode in place after it had been oriented with the Horsley-Clarke instrument, it was possible to stimulate the brain of the unanesthetized animal. Stimulation of the hypothalamus resulted in pupillary dilatation, increased rate and amplitude of respiration, erection of hair, inhibition of gastrointestinal peristalsis and frequently clawing, struggling and urination. The cat appeared to be enraged. In contrast, during stimulation of the anterior commissure, internal capsule, infundibulum or thalamus with

the same strength of current, the animal showed no evidence of sympathetic discharge or of emotion. . . . The response of a cat to a barking dog, as described by Cannon, is very similar to its response to weak stimulation of the hypothalamus. Bard showed that sham rage occurred after ablation of all of the brain rostral to the hypothalamus, but disappeared when the hypothalamus was removed. We believe, therefore, that the hypothalamus is the integrating center for the reactions of strong emotion."—*T. W. Forbes* (N. Y. Psychiatric Institute).

178. Lalich, J., Meek, W. J., & Herrin, R. C. Reflex pathways concerned in inhibition of hunger contractions by intestinal distention. *Amer. J. Physiol.*, 1935, 113, 84.—"It is concluded that reflex inhibition of hunger contractions by distention of the jejunum may take place either through the vagi or splanchnics, the former pathway probably being more effective."—*T. W. Forbes* (N. Y. Psychiatric Institute).

179. Langworthy, O. R., & Kolb, L. C. Demonstration of encephalic control of micturition by electrical stimulation. *Johns Hopk. Hosp. Bull.*, 1935, 56, 37-49.—Electrical stimulation of an area in the premotor cortex of the cat was found to produce an increase in bladder pressure followed by micturition. When the bladder pressure was already high, stimulation caused it to fall. The cortical control of micturition is believed to act in conjunction with a midbrain mechanism regulating the tone of the bladder musculature.—*D. G. Marquis* (Oxford, England).

180. Lewy, F. H. Strength duration curves of the over- and under-excitability nerve-muscle apparatus and some consequences concerning clinical application of chronaximetry. *Amer. J. Physiol.*, 1935, 113, 87.—"By means of chronaximetry examination of 825 lead workers subjected to different degrees of exposure it could be shown that the strength-duration curves even of the over- and under-excitability nerve-muscle apparatus equal approximately a hyperbola."—*T. W. Forbes* (N. Y. Psychiatric Institute).

181. Lovett, D. Spinal cord mechanisms involved in solving problems in sensory discriminations: III. The ability of rats with spinal cord lesions to discriminate runways differing in tactual discrimination. *Psychol. Bull.*, 1935, 32, 540.—Abstract.—*J. F. Dashiell* (North Carolina).

182. Marquis, D. G. Phylogenetic interpretation of the functions of the visual cortex. *Arch. Neurol. Psychiat.*, Chicago, 1935, 33, 807-815.—Clinical studies point to a characteristic difference between the organization of functions in the visual cortex and in the somatic-sensory cortex. Destruction of the area striata is followed by blindness which is complete, while after destruction of the postcentral cortex there remains a primitive undifferentiated sensitivity to contact, pain, warmth and cold. Experimental studies demonstrate that in the evolutionary series of mammals there has been a progressive encephalization of functions, in which the cortex acquires more and more of the functions mediated by subcortical centers in lower animals. It is suggested that the difference

in organization of the visual and of the somatic-sensory systems in man represents, not a qualitative difference, but a difference in the degree of encephalization of the respective functions.—*D. G. Marquis* (Oxford, England).

183. Marshall, W. H. Observations on blood pressure responses to electrical stimulation of the central end of the vagus. *Amer. J. Physiol.*, 1935, 113, 95.—"Blood pressure responses to central vagal stimulation in cat and dog preparations were observed with a vacuum tube stimulator, permitting the use of rectangular stimulating pulses, the duration, intensity and frequency of which could be varied over a wide range. In the dog, a maximal sustained pressor effect of about 100 per cent elevation of arterial pressure could regularly be obtained with strong stimuli of low frequency, two to ten per second. The depressor effect was best obtained with weak stimuli of a higher frequency, but was transitory. . . . The responses obtained gave some additional suggestions of reciprocal action of the centers as regards pressor action."—*T. W. Forbes* (N. Y. Psychiatric Institute).

184. McCulloch, W. S., & Dusser de Barenne, J. G. Extinction: local stimulatory inactivation within the motor cortex. *Amer. J. Physiol.*, 1935, 113, 97-98.—"Repetition of electrical stimulation of any focus of the motor cortex (macacus) with an interval of a few seconds gives appearance or increase of response, i.e., facilitation; with a longer interval (15 seconds or more) absence or diminution of response, i.e., extinction. . . . Extinction is to be distinguished from so-called cortical inhibition, which is the obliteration of an existing muscular response through stimulation of a cortical focus. Extinction is a sharply localized phenomenon, for circumthermocoagulation and circumcocainization of the motor focus leave extinction present, whereas minute displacement of the electrode between two stimulations suffices to replace it by facilitation. After destruction of the outer three layers of the cortex by laminar thermocoagulation extinction persists, whereas it is superseded by facilitation when the remaining layers are coagulated or when the whole thickness of the cortex is removed and the electrodes are applied to the corona radiata. Extinction, therefore, is a cortical phenomenon, the extinction of the response on electrical stimulation of the cortex being due to localized inactivation of those cells in the inner two layers directly beneath the electrode. All available evidence implicates the large and giant pyramidal cells."—*T. W. Forbes* (N. Y. Psychiatric Institute).

185. Moore, R. M., & Singleton, A. O. A pseudo-affective reflex evoked by injections into the left coronary artery and the peripheral paths of the pain-fibers which are concerned. *Amer. J. Physiol.*, 1935, 113, 99-100.—"In decerebrate cats, after etherization had been discontinued, the thorax was entered under artificial respiration, the pericardium opened and a thread passed beneath the stem of the left coronary artery proximal to its bifurcation. Manipulations of tissues adjoining the artery, e.g., pinching, gave rise to reflex movements of the extremi-

ties and of the head and jaws. Tension on the thread so as to occlude the arterial trunk, if prolonged for 10 to 15 seconds, resulted in similar reflexes. No reflex effects occurred when only one branch of the artery was occluded. . . . It is apparent, then, that all pain-fibers ending in the region of the left coronary artery pass to the spinal cord by way of the rami of the upper thoracic ganglia of the left side."—*T. W. Forbes* (N. Y. Psychiatric Institute).

186. **Nicholson, H. C., & Grezin, D.** Effects of local cooling of the floor of the fourth ventricle on respiration. *Amer. J. Physiol.*, 1935, 113, 102-103.—"Moderate local cooling of the posterior portion of the floor of the fourth ventricle resulted in a decrease in the duration of the expiratory phase of respiration with little effect upon inspiration, thus increasing respiratory rate. More marked cooling caused a definite increase in the duration of the inspiratory phase, resulting in a decrease in respiratory rate usually below the original value. These effects were obtained with either intact or sectioned vagi."—*T. W. Forbes* (N. Y. Psychiatric Institute).

187. **Parker, G. H.** The cellular transmission of substances, especially neurohumors. *Quart. Rev. Biol.*, 1935, 10, 251-271.—This Somerville Lecture delivered at McGill University reviews the neurohumoral control of the chromatophores, especially of fish. The simplest case, in the dogfish, is controlled by a secretion from the pituitary body. In the catfish and the killifish the dark phase is controlled by the nerves and a soluble humor, probably of pituitary origin. The light phase is also partly under nervous control, implying a double innervation of the chromatophores, and partly controlled by an insoluble humor that spreads from cell to cell. The latter is probably oil-soluble and passes over the lipid membrane of the cell.—*O. W. Richards* (Yale).

188. **Penfield, W., & Evans, J. P.** The frontal lobe in man: a clinical study of maximum removals. *Brain*, 1935, 58, 115-133.—Two cases of amputation of the right and of the left frontal lobe as far caudally as the border of the precentral area showed, as the most important detectable sequel, a slight impairment "of those mental processes which are prerequisite to planned initiative." Removal of approximately the anterior half of the right frontal lobe in a third case was not associated with any noticeable alteration, neurological or psychological.—*D. G. Marquis* (Oxford, England).

189. **Penfield, W., Evans, J. P., & MacMillan, J. A.** Visual pathways in man with particular reference to macular representation. *Arch. Neurol. Psychiat.*, Chicago, 1935, 33, 816-834.—Six cases of radical excisions in the temporal and occipital lobes of the human brain are presented as evidence of a bilateral cortical projection of the macula by means of a tract of fibers which leaves the inferior longitudinal fasciculus to reach the opposite hemisphere by way of the splenium of the corpus callosum.—*D. G. Marquis* (Oxford, England).

190. **Prosser, C. L.** A preparation for the study of single synaptic junctions. *Amer. J. Physiol.*, 1935,

113, 108.—Afferent impulses from the single ending in the sensory hairs of the caudal lobes of the crayfish show a latency of 3 to 4 σ and are synchronized with the stimulus up to 50 per second. A stimulation of 3 or 4 adjacent hairs is necessary for one efferent response (anterior to the abdominal ganglion). Such an efferent response follows a stimulus up to 8 or 10 per second. Efferent responses also occur in contralateral nerves of the caudal segment; synaptic delays for proprioceptive and tactual impulses through the abdominal ganglia are 4 to 6 σ .—*T. W. Forbes* (N. Y. Psychiatric Institute).

191. **Ranson, S. W., & Magoun, H. W.** Respiratory and pupillary reactions induced by electrical stimulation of the hypothalamus. *Arch. Neurol. Psychiat.*, Chicago, 1933, 29, 1179-1194.—*R. R. Willoughby* (Clark).

192. **Rashevsky, N.** Outline of a physico-mathematical theory of the brain. *J. gen. Psychol.*, 1935, 13, 82-112.—The author outlines a physico-mathematical theory of the brain on the basis of his previous investigations of cellular dynamics. Both thermodynamical and neurological considerations support the view that training is connected with actual increase in interneuronic connections. The mathematical theories presented include conditioned responses, inhibition, pattern discrimination, recognition, and cognitive thinking.—*H. Cason* (Wisconsin).

193. **Richards, C. H., & Gasser, H. S.** Afterpotentials and recovery curve of C fibers. *Amer. J. Physiol.*, 1935, 113, 108-109.—In the C fibers of bullfrog splanchnic a greatly exaggerated positive afterpotential and modification of the recovery curve is found, as compared to A fibers. Excitability does not show a supernormal phase, but instead a second decrease. The excitability curve resembles curves of A fibers poisoned with yohimbine. With veratrinization C fibers develop a well-defined negative afterpotential corresponding to which is a supernormal phase in recovery, followed by a subnormal phase accompanied by a positive afterpotential. Ability to respond (as tested by supermaximal shocks) shows supernormality at 0.1 second, a time when excitability is subnormal.—*T. W. Forbes* (N. Y. Psychiatric Institute).

194. **Rioch, D. McK., & Rosenblueth, A.** Inhibition of flexor reactions on homolateral cortical stimulation. *Amer. J. Physiol.*, 1935, 113, 110.—Electrical stimulation of the cortex around the cruciate sulcus in cats produced inhibition of flexion in homolateral legs. When inhibition preceded the excitatory stimulus the response was delayed and lessened. A less pronounced inhibition was obtained from cerebellum stimulation.—*T. W. Forbes* (N. Y. Psychiatric Institute).

195. **Rosenblueth, A.** The all-or-none principle and the nerve effector systems. *Quart. Rev. Biol.*, 1935, 10, 334-340.—Stimulus and response are defined, and then the following sequence of events is examined for the place of the all-or-none principle: (1) electric shock \rightarrow (2) local excitatory state in nerve \rightarrow (3) nerve impulse \rightarrow (4) local excitatory state

in neuro-effector junction →(5) conducted disturbance in the effector →(6) liberation of mediator →(7) combination of mediator with receptive substance →(8) specific reaction of the effector. The information known about each step is critically reviewed with respect to both smooth and striated muscle systems and glands, and it is concluded that steps (3) and (5) are quantal and, therefore, all-or-none. The other steps are not quantal and may bring about graded response. Some systems do not contain all of the above steps.—O. W. Richards (Yale).

196. Stürup, G. K., & Carmichael, E. A. Pain: the peripheral pathway. *Brain*, 1935, 58, 216-220.—Certain clinical observations have led to the view that after interruption of afferent pathways by lesion of the limb plexus or section of the spinothalamic tracts, pain impulses may utilize the periarterial plexus or sympathetic chain to gain entrance to the spinal cord. To test this possibility, the left ulnar nerve was blocked at the level of the elbow by injection of novocain in two normal adult subjects. Electrical and mechanical stimulation of the digital artery, exposed by open dissection at the base of the fifth finger, evoked no sensations of any character. This evidence proves that the periarterial sympathetic nerves cannot function as an afferent pain pathway.—D. G. Marquis (Oxford, England).

197. Tönnies, J. F. Die Ableitung bioelektrischer Effekte vom uneröffneten Schädel. (The derivation of bio-electrical effects from the unopened skull.) *J. Psychol. Neurol., Lpz.*, 1933, 45, 172-184.—R. R. Willoughby (Clark).

198. Tower, S. S. The dissociation of cortical excitation from cortical inhibition by pyramid section, and the syndrome of that lesion in the cat. *Brain*, 1935, 58, 238-255.—The motor deficiency following section of the right pyramid at the level of the trapezoid body in adult cats may best be described as a permanent impairment of flexor functions. Secondary ablation of the motor cortex on the same side adds to the syndrome a degree of rigidity, previously absent. Stimulation of the motor cortex of cats with pyramid section does not elicit flexion or extension of the limbs, but is successful in producing relaxation of an extensor tone induced by supine posture. These results indicate a pre-spinal dissociation of the excitatory and inhibitory elements of cortical function.—D. G. Marquis (Oxford, England).

199. Tower, S. S., & Hines, M. Dissociation of the pyramidal functions of the frontal lobe. *Science*, 1935, 82, 376.—"Pyramidal and extra-pyramidal functions of the motor cortex and adjacent regions may be dissociated by pyramid section. The rapidly executed, fairly discrete movements, long familiar from cortical stimulation, are thus demonstrated to be mediated exclusively by the cortico-spinal tract. On the other hand, the integrity of this tract is not necessary to the exhibition of the larger movements called adversive, nor to the exercise of the very important inhibitory function of the cortex. Consequently, these, together with the epileptiform con-

vulsions elicited, represent extra-pyramidal activities of the cerebral cortex."—R. Goldman (Clark).

[See also abstracts 49, 58, 59, 71, 201, 202, 210, 234, 248, 292, 302, 314, 366, 367, 368, 369, 390, 472.]

MOTOR PHENOMENA AND ACTION

200. Ach, N. Analyse des Willens. (Analysis of will.) *Handb. biol. ArbMeth.*, 1935, Abt. 6, Teil E. Pp. 460.—R. R. Willoughby (Clark).

201. Baron, L. E., Curtis, G. M., & Haverfield, W. T. The effect of splanchnic resection on gastric motility in man. *Amer. J. Physiol.*, 1935, 113, 8.—"Fifteen preoperative control observations were made. Bilateral splanchnic resection was performed by the super-diaphragmatic approach through the posterior mediastinum. The splanchnic nerves were identified and large segments of each resected. The convalescence was uneventful. Twenty-one experiments were made after the left and fifteen after the right splanchnic resection. The results indicate that following bilateral splanchnic resection the duration of the periods of activity is definitely increased. Although severe contractions were frequently observed, the subject at no time experienced symptoms suggestive of hunger."—T. W. Forbes (N. Y. Psychiatric Institute).

202. Bean, J. W. Alteration in the response of mammalian muscle to electrical stimulation of nerve as a result of changes in pressure. *Amer. J. Physiol.*, 1935, 113, 10.—"Increasing the pressure above atmospheric, gave rise to a decrease and cessation of the muscle response elicited by stimulation of the central end of the popliteal nerve, intact, and peripheral end of the sectioned peroneal nerve, but not when elicited by direct stimulation of the muscle itself. This cessation frequently persisted throughout prolonged periods of exposure to the increased pressure. In some instances there was a gradual return of the response during prolonged exposure. Decompression was attended by a return of the response in a graded fashion. . . . In experiments in which the central end of the popliteal nerve and the intact peroneal nerve were stimulated, cold block applied to the vagi brought about a return of the muscle response which had previously been stopped by a maintained pressure; removal of the cold block resulted in cessation again. These experiments support the belief that the cessation phenomenon is not an artefact."—T. W. Forbes (N. Y. Psychiatric Institute).

203. Bena, E. Elektrický odpor kůže. (Electrical skin resistance.) *Rev. Neurol. Psychiat., Praha*, 1935, 32, 124-134.—Differences in polarization capacity of the skin cannot be profitably used in pathology unless we know the variations of polarization under normal conditions. The type of electrodes and other technical factors affect considerably the very sensitive phenomenon of polarization capacity of the skin. Various parts of the skin also give different values. Values obtained over the os frontale are quite different from those on the skin over the

musculus suprascapularis and musculus quadriceps. The latter two values correlate highly with each other ($.76 \pm .09$).—Z. Piotrowski (Columbia).

204. Biel, W. C. Attempted modification of the eyelid reflex to light by the conditioning technique. *Psychol. Bull.*, 1935, 32, 527.—Abstract.—J. F. Dashiell (North Carolina).

205. Bills, A. G. Fatigue, oscillation, and blocks. *J. exp. Psychol.*, 1935, 18, 562-573.—A study of successive reaction times in the continuous performance of a homogeneous mental task disclosed pauses or lengthened reaction times which appeared at more or less regular intervals. The author describes these pauses under the term "blocks." The results of three different kinds of graphical analysis of the experimental data lead the author to advance the theory that the blocking phenomenon can be explained in terms of at least two fundamental periodicities in the flow of available (neural) energy, and that these periodicities depend on the amount of work done, i.e. the rate at which the available energy is being consumed rather than upon the amount of time which has elapsed.—H. W. Karn (Pittsburgh).

206. Braune, R. Ueber den Einfluss fleischloser Kost auf die Geistestätigkeit des Menschen. (The influence of a vegetarian diet on human mental activity.) Berlin: R. Schötz, 1935. Pp. 26. RM 1.—Meat is not only an unnecessary food, but apparently has an injurious influence. Vegetarianism increases endurance, working capacity and mental ability, decreases irritability, and improves the outlook on life—witness Hitler and Mussolini. He who gives up meat can easily make greater sacrifices. Vegetarianism makes the Japanese unpretentious and persevering, and thus enables them to raise large families on low wages.—R. Braune (Halle).

207. Braunshausen, N. Les fonctions motrices. (Motor functions.) *Bull. Ass. méd.-pédag. liég.*, 1934, 24, 1-15.—The author summarizes the researches which have previously been undertaken in the study of motor functions, and then gives the results obtained from his testing of 16 students in a university institute of education. The following items were tested: muscular force by means of the dynamometer and the Mosso and Piorkowski ergographs; kinesthetic sensitivity by means of the Michotte and Christiaens kinesi-ergographs and by metal plates of different thicknesses which had to be classified; rapidity of movements by tapping and tracing dots, circles, squares, and the writing of a given word; steadiness of the hand by means of tremometers and the Schulze maze; aptitude for spatial reproduction by means of a relief maze and mirror drawing; and, finally, aptitude for certain manual trades by means of the Giese test. The results of these tests, which had been undertaken primarily with the end in view of familiarizing the students with laboratory methods, were in harmony with previous studies. The correlations, calculated according to the Spearman formula, between the different series of measurements and (for rapidity of movements) between the total scores and the rapidity of tracing dots, circles, etc., were

generally rather low, less than .60; the highest was .86 (total speed and speed in tracing circles). Certain negative correlations were found: kinesthetic memory and steadiness, $-.9$, and rapidity and steadiness, $-.3$. Correlation between general motor ability and intelligence, as measured by the Otis-Duthil scale, was $.3$.—R. Nihard (Liège).

208. Brown, D. E. S. The liberation of energy in the contracture and simple twitch. *Amer. J. Physiol.*, 1935, 113, 20.—"In the pressure contracture, the rate of release of these chemical agents is contingent only upon the maintenance of pressure, and tends to be terminated at any time by an abrupt decompression. Accordingly by decompressing the muscle at various times after compression it is possible to stop the further liberation of energy, after a certain quantity has been formed. This allows one to ascertain the energy liberated at various times during the contracture and also the form of the contraction after decompression when no further energy is being mobilized. Experiments performed in this way show that if the muscle is decompressed when only five per cent of the expected contracture tension has had time to develop, the subsequent contraction is similar in rate and form to a simple isometric twitch. This contraction is not due to a stimulation of the muscle, since it is unaccompanied by a propagated action potential. It is believed that during the brief period of compression a quantity of chemical energy is liberated and that after decompression this fraction causes contraction. The situation is therefore similar to that in the twitch, where heat measurements show that a rapid burst of energy occurs at the onset of contraction. The similarity in the form of the two contractions bears out this interpretation. In contrast to this, the pressure contracture appears to depend on a continuous liberation of chemical components."—T. W. Forbes (N. Y. Psychiatric Institute).

209. Cannon, W. B., & Rosenblueth, A. A comparison of the effects of sympathin and adrenine on the iris. *Amer. J. Physiol.*, 1935, 113, 251-258.—The effects of adrenine, hepatic sympathin and cardio-pulmonary sympathin on the nictitating membrane and the iris of cats were investigated. It is suggested that sympathin E may affect both dilator and constrictor muscles of the iris while adrenine causes marked dilation, and that sympathin I occurs in cardio-pulmonary and not in hepatic sympathin.—T. W. Forbes (N. Y. Psychiatric Institute).

210. Cate, J. ten. Können die bedingten Reaktionen sich auch ausserhalb der Grosshirnrinde bilden? (Can conditioned reactions be formed outside the cerebral cortex?) *Arch. néerl. Physiol.*, 1934, 19, 469-481.—On the basis of experiments on various animals it is concluded that the formation of conditioned reflexes or reactions cannot be considered an exclusive function of the cerebral cortex. Conditioned reflexes may be formed by invertebrates. In the lower forms of vertebrates having no cerebral cortex they are formed by other parts of the central nervous system. Among higher animals, in which the neopallium has reached its highest development, the formation of

conditioned reactions appears to be primarily a function of the cerebral cortex; but even here they are formed, in a very limited way, in subcortical centers.—C. P. Stone (Stanford).

211. Christiaens, A. G. *L'habileté manuelle*. (Manual skill.) *Bull. intercommun. Orient. prof.*, 1934, 14, 1-16.—In this study, which was made from the professional orientation point of view, the author emphasizes the importance of the motor functions in manual skill. Their development does not depend solely on heredity but also on the environment, which may or may not have been favorable. Tests of manual skill should not be restricted to a measurement of what has already been acquired, but should indicate the degree of development which might be attained. In order to obtain the desiderata, the author used tests involving a simple task which could be gradually made more difficult and which, on being repeated at 24-hour intervals, would constitute an example of abridged learning. The tests are not described.—R. Nihard (Liège).

212. Cook, T. W., Morrison, S. H., & Stacey, C. L. *Whole and part learning of a visually perceived maze*. *J. genet. Psychol.*, 1935, 47, 218-232.—Stylus mazes of the Shepard type (stops concealed but general plan perceivable) were used in simple (12-unit) and complex (24-unit) forms, and were learned either as wholes or by a part method (half and half, then combined). The part method was found superior in number of errors and total time, with no difference in number of trials. The evidence suggests that practice, sight of surface of the maze and of tracing movements, and the relative simplicity of the problem favor part learning.—J. F. Dashiell (North Carolina).

213. Crafts, L. W. *Transfer as related to number of common elements*. *J. gen. Psychol.*, 1935, 13, 147-158.—The aim of the experiment was to determine the relation, in card-sorting, between the amount of transfer and the similarity, as defined in terms of the number of common elements, between a training series and a series of systematically varied test situations. Four equated groups of subjects sorted eight packs of numbered cards according to one arrangement of nine numbers on the sorting box, then sorted two packs with a test arrangement which was either identical with the original or had three, six, or all nine of the numbers in interchanged positions. Under these conditions the transfer from the original to the test arrangement was closely proportional to the number of elements common to them, and the correlation between the two was .87.—H. Cason (Wisconsin).

214. Davis, F. C. *A further analysis of the effects of maze reversal upon subjects reporting different methods of learning and retention*. *Psychol. Bull.*, 1935, 32, 532.—Abstract.—J. F. Dashiell (North Carolina).

215. Davis, R. C. *The muscular tension reflex and two of its modifying conditions*. *Ind. Univ. Publ. Sci. Ser.*, 1935, No. 3. Pp. 22.—The action potentials of muscle tension to noise stimulation, with and without instructions to inhibit, were measured from oscillograph records.

One group of 18 subjects was used to determine the effect of repetition of the stimulus within one sitting, and 4 subjects were studied through four daily sittings. In both situations the potential was found to decrease with repeated stimulation. A second group of 61 subjects was studied in the same situations, except that for some situations they were instructed to try to inhibit any response. Comparisons were made between the average of several possible groupings: with and without directions to inhibit, introspective report of success or its lack in inhibiting, "tense" or "relax" methods of inhibition, and greater or less activity in the latent period preceding situations. In none of these except the last was the critical ratio greater than 0.75. In the last comparison it was 2.07. The author feels that the data justify speaking of the "muscle tension response as a reflex."—C. M. Louttit (Indiana).

216. Edwards, D. J. *The action of pressure on the tension response of smooth muscle*. *Amer. J. Physiol.*, 1935, 113, 37-38.—"A strip of muscle about 1 cm. long and 3 to 4 mm. wide obtained from the pyloric end of the stomach of the 'painted' terrapin was used in these experiments. . . . A comparison of the tension-time of the muscle response under pressure, with the control shows that the rate of developing tension is only about one-half as fast when pressure is acting upon it. However, if the compressed muscle is given a stronger stimulus the difference in rate and magnitude of the response becomes less. A certain amount of proportionality is indicated between the reduction in the contraction amplitude and the amount of pressure acting on the muscle, but this relationship holds only for low pressures. At pressures of 5000 pounds on the muscle a contracture develops which may exhibit a total tension in excess of that obtainable with a maximal faradic stimulation."—T. W. Forbes (N. Y. Psychiatric Institute).

217. Ellson, D. G. *A mechanical synthesis of trial-and-error learning*. *J. gen. Psychol.*, 1935, 13, 212-218.—The author proposes a mechanical synthesis of trial-and-error learning based on Hull's description (*Psychol. Rev.*, 1930, 37, 241-256) of the phenomena, and suggests that the gap between organic behavior and the physical laws of nature is being slowly but surely bridged.—H. Cason (Wisconsin).

218. Farnsworth, P. R. *Continued training with the omission of certain Nebenreize*. *Psychol. Bull.*, 1935, 32, 533.—Abstract.—J. F. Dashiell (North Carolina).

219. Fenn, W. O. *Muscle force at different velocities of shortening*. *Amer. J. Physiol.*, 1935, 113, 41.—"Measurements were made by an optical isotonic lever of the speed of shortening of frog sartorius muscles under different loads. Velocities were measured at the same muscle length for all loads and at a point on the curve where acceleration was absent, so that the force on the muscle is equal to the load. The force decreases with increasing velocity or the velocity decreases with increasing load. The force-velocity curve is not linear, as would be expected

from Hill's equation, which attributes the decrease of force to the viscous resistance. . . . It is concluded that the rate of shortening is conditioned by the rate of the chemical reactions which liberate the excess energy necessary for shortening rather than by the behavior of the muscle as a simple viscoelastic system."—T. W. Forbes (N. Y. Psychiatric Institute).

220. Flik, G. **Experimentelle Untersuchungen über das Schiessen.** (Experimental studies concerning shooting.) *Arch. ges. Psychol.*, 1935, 94, 122-156. —A study is entered upon of the effect of rhythm upon precision of aiming with the rifle. Rhythm is generally recognized as minimizing fatigue and saving energy. Organization of motor activity and automatization of habits are furthered by rhythm. Rhythm must be adapted to the personal tempo. This problem of personal tempo was studied relative to the handling of the gun and its effect upon various elements in the shooting situation noted. The relationship between the time element and precision received study and tables show these results. The article concludes with suggestions for improvement in precision.—A. B. Herrig (Michigan Central State Teachers College).

221. Forbes, T. W., & Landis, C. **The limiting A. C. frequency for the exhibition of the galvanic skin ("psychogalvanic") response.** *J. gen. Psychol.*, 1935, 13, 188-193.—Using a cathode ray oscillograph with photographic recording and an alternating current bridge the psychogalvanic phenomenon was obtained on eight individuals. The average magnitude of the change at 1000 cycles corresponded fairly well to previously reported figures, while the average of all responses obtained at 10,000 cycles was $\Delta C = .00012 \mu F$, $\Delta R = 8.2$ ohms. Average of balances $C = .0062 \mu F$, $R = 920$ ohms. The psychogalvanic response was obtained as an impedance change up to 10,000 cycles in five individuals (and at 12,000 and 15,000 cycles in one individual), a frequency range greater than has been previously reported. The duration of a half cycle of the limiting frequency corresponded well to the time for the entrance of a diffusion capacity effect found by Hōzawa, and it is therefore concluded that the impedance variation component of the galvanic skin response is a function of such a diffusion capacity.—H. Cason (Wisconsin).

222. Galperin, L., Okun, M., Simonson, E., & Sirkina, G. [Some data on the physiology of fatigue. I.] *Fiziol. Zh. U.S.S.R.*, 1935, 18, 793-803.—A. Varmolenko (Leningrad).

223. Grobin, W. **Ein sekretorischer Enthemungsreflex: der gusto-lacrymale Reflex (Bing).** (A secretory disinhibition reflex, the gustolacrymal reflex of Bing.) Basel: Philograph. Verl., 1934. Pp. 17.—R. R. Willoughby (Clark).

224. Hall, C. **Is there a general learning ability?** *Psychol. Bull.*, 1935, 32, 535.—Abstract.—J. F. Dashiell (North Carolina).

225. Hamilton, W. F., Woodbury, R. A., & Harper, H. T. **Optical tracings of human blood pressure, comparing the clinical and oscillographic criteria with the true blood pressure.** *Amer. J.*

Physiol., 1935, 113, 59.—"The manometer described in a previous communication has been perfected so that it gives a nearly aperiodic and very quick deflection when equipped with a 22 to 26-G needle."—T. W. Forbes (N. Y. Psychiatric Institute).

226. Hansen, E. **Zum Vergleich des Energieumsatzes beim Radfahren und beim Treppensteigen.** (A comparison of the energy consumption in bicycle riding and in climbing stairs.) *Arbeitsphysiologie*, 1933, 7, 299-307.—(*Biol. Abstr.* IX: 11503).

227. Helson, H. **Demonstration of pupillary, accommodative, and consensual reflexes through changes in apparent size of a pinhole.** *J. gen. Psychol.*, 1935, 13, 186-188.—Changes in the apparent size of the pinhole and of objects viewed through it may also be used as an index of these reflexes.—H. Cason (Wisconsin).

228. Henley, E. H. **Factors related to muscular tension.** *Arch. Psychol.*, N. Y., 1935, No. 183. Pp. 44.—The problem was the measurement of a specific muscular tension in normal and psychopathic subjects, to determine the effect upon this tension of the introduction of mental tasks, to study variability in these tensions, and to compare the groups tested. Measures of tension at the left elbow joint were made under conditions of "rest" without mental task and of completion of two mental tasks. Tensions of men were found to be higher than those of women, those of normal men higher than psychopathic men, those of psychopathic women higher than those of normal women. Muscular tension is present in all physically intact individuals when awake, varying degrees of tension being found in all the present subjects under all three of the test conditions. With some subjects the introduction of a mental task registers an increase of tension, with others the tension decreases.—E. M. Achilles (Columbia).

229. Hilgard, E. R. **Sources of confusion in attempts to relate conditioning and learning.** *Psychol. Bull.*, 1935, 32, 536.—Abstract.—J. F. Dashiell (North Carolina).

230. Hrdlička, A. **The forehead.** *Smithsonian Inst. Ann. Rep.* (1933), 1935, 407-414.—Anthropometry has devoted little attention to the forehead, although it has been important in several esthetic canons. A number of anthropometric data of the forehead are given. Of pertinence here is the finding that the height of the forehead has no apparent relation to degree of intelligence.—C. M. Louttit (Indiana).

231. Jacobson, E. **Variations in muscular "tonus."** *Amer. J. Physiol.*, 1935, 113, 71.—"Apparatus is available capable of detecting transient voltages to within a major fraction of a microvolt, in frequencies higher than 30 per second; but to a considerably higher microvoltage in lower frequencies. The results in numerous measurements in striped muscle of man, the dog and the frog fail to sustain the traditional view. . . . According to the traditional view, tonus in striped muscle favors speed of response to stimuli. Tests on reaction times in man disclose an increased speed if there is preliminary slight contraction rather than complete relaxation in the reacting muscle,

which accords with the traditional view; but this increase is strikingly small; the completely relaxed muscle can nevertheless respond promptly. The use of the term tonus in the traditional sense for striped muscle does not seem warranted. It is suggested that tonus in striped muscle be redefined as meaning a state of slight contraction, more or less constant or irregular, often present but sometimes absent in health."—*T. W. Forbes* (N. Y. Psychiatric Institute).

232. **Kempf, E. J.** *Physiology of attitude—emergence of ego-organization.* *Med. Rec.*, N. Y., 1935, 142, 264-266.—(Tenth installment.) The author continues by discussing "the reciprocal reactivity of postural tensions of the circulatory, respiratory and somatic reflexes to one another, in making up the apprehending functioning of attitude and the quickness of adaptation of these conditioned parts of attitude to the environment," all of which may be demonstrated by simple psychophysiological tests or as a matter of common experience. Physiological evidence discloses that all changes in affective feeling are accompanied by concomitant changes in postural tensions of the autonomic and somatic musculature. In the consideration of this question, he discusses the theories of peripheral and central origin of emotional experience, with reference particularly to the experimental work of both Head and Cannon.—*M. H. Erickson* (Eloise Hospital).

233. **Kleitman, N., Titelbaum, S., & Feiveson, P.** *Diurnal variation in reaction time and its relation to body temperature.* *Amer. J. Physiol.*, 1935, 113, 82.—"Simple reaction time to light and sound, and reaction time with choice to colored lights were studied on five male subjects. The reaction time in all cases was high early in the day, decreased to a minimum during the afternoon, and rose during the evening. Simultaneous determinations of the mouth temperature revealed an inverse relationship between changes in body temperature and reaction time, particularly reaction time with choice. The higher the temperature the quicker the response."—*T. W. Forbes* (N. Y. Psychiatric Institute).

234. **Kupalov, P. S.** [The complex reflex reactions of animals and the functional structure of the cortex.] *Sov. vrach. Gaz.*, 1935, 1085-1090.—The author's experiments allow one to suppose that in the cortex there is a separate kind of nerve cells differing from the receptor ones. The continuance of reactions depends on their function.—*A. Yarmolenko* (Leningrad).

235. **Kupalov, P. S., & Pavlov, N. N.** [The action of the short conditioned stimulus in the case of retarding conditioned reflex.] *Fiziol. Zh. U.S.S.R.*, 1935, 18, 734-738.—The authors investigated the action of short conditioned stimulation in the case of the retarding conditioned reflex. In the case of the retarding reflex the application of short conditioned stimulation during the first inhibitory phase of the retarding reflex is inefficient. If the conditioned stimulation ceases in the second excitatory phase of the retarding reflex then the salivary reaction can proceed without lasting conditioned stimulation.

This confirms I. P. Pavlov's statement that every functional state of the cortical cells can serve as a conditioned stimulus.—*A. Yarmolenko* (Leningrad).

236. **Laird, D. A.** *Fatigue.* In *Cyclopedia of Medicine* (Piersol). Philadelphia: F. A. Davis Co., 1935. Pp. 663-670.—Fatigue and feelings of fatigue are discussed as a general problem, followed by a discussion of physical exertion, nutritional states, inadequate sleep, light, noise and vibration, ventilation, endocrine states, and psychogenic stresses as causes of fatigue. A brief discussion is then given of occupational fatigue. The author concludes that the feeling of fatigue should always be regarded first as a possible symptom of disease.—*M. H. Erickson* (Eloise Hospital).

237. **Leese, C. E., & Roberts, A. C.** *The effect of bulbocapnine upon the fatigue of skeletal muscle in situ.* *Amer. J. Physiol.*, 1935, 113, 86-87.—"The results indicate that the fatigue produced after bulbocapnine is more truly a muscle fatigue than a myoneural junction fatigue. It is suggested that the factors responsible for these results are directly concerned with an altered vascularity of the muscle."—*T. W. Forbes* (N. Y. Psychiatric Institute).

238. **Leux, I.** *Stellung und Vorstellung des eigenen Körpers als Basis der akustischen egozentrischen Richtungslokalisation.* (The position and representation of one's own body as a basis of egocentric acoustical localization of direction.) *J. Psychol. Neurol., Lpz.*, 1932, 44, 644-670.—*R. R. Willoughby* (Clark).

239. **Lindsley, D. B.** *Characteristics of single motor unit responses in human muscles during various degrees of contraction.* *Amer. J. Physiol.*, 1935, 113, 88-89.—"Action potentials have been obtained by means of concentric needle electrodes from single motor units in several flexor and extensor muscles of the limbs of normal human subjects during graded series of contractions and in fatigue. The action potentials have been recorded by means of a portable, six-stage, transformer-coupled amplifier, a DuBois oscillograph and a moving film camera. . . . The lowest regular rates at which single units respond during the weakest voluntary contractions are about 4 per second. The highest rates with very strong contractions are about 40 per second. Evidence from patients with progressive muscular atrophy, with but few active units remaining, maximally weighted, suggests an upper limit of 50 per second. The majority of contractions (excluding very weak and very strong) involve unit frequencies from 10 to 25 per second. Single units have been maintained in continuous activity at a moderate rate for 30 minutes without indication of rotational activity or change in rhythm, amplitude or wave form. Fatigue caused by contractions at constant intensity for a prolonged period shows responses of irregular and progressively diminishing amplitude. At near maximum intensities of contraction and during fatigue the responses of various units become grouped. In both cases the increased synchronization of responses is correlated with tremors of the mechanical record of tension."—*T. W. Forbes* (N. Y. Psychiatric Institute).

240. Luckiesh, M., & Moss, F. K. The effect of visual effort upon the heart-rate. *J. gen. Psychol.*, 1935, 13, 131-139.—A study was made of the relation between heart rate and (1) the duration of visual effort, and (2) the intensity of illumination under which the task was performed. Each of seven subjects read Wells' *Outline of History* at his normal rate, completing 20 one-hour tests. For all subjects the heart rate decreased progressively as the duration of the visual task increased, and the decrement in heart rate was greater under one foot-candle than under 100 foot-candles. In interpreting the results, emphasis was placed upon sensory processes rather than upon the mental phase, since the latter was not a variable in the present problem.—H. Cason (Wisconsin).
241. Mateer, F. Glands and efficient behavior. New York: Appleton, 1935. Pp. xv + 243. \$2.50.—"This study is an attempt to answer some of the questions concerning gland therapy raised by adults without technical training in medicine or psychology and its allied provinces. Every effort has been made to eliminate subjective judgments and replace them by verified reports and measurable ratings. Cases in which the impersonal rating has been disturbed by some unforeseen and incalculable factor have been carefully eliminated from the study. Preference has been given to those cases who have been followed long enough to pass the point where a temporary improvement might be interpreted as a permanent gain. . . . Nursery schools, kindergartens, and elementary schools wherein children may be themselves are not established facts, and it is primarily through such agencies that the gain of a child under medication can be determined with some precision. With older individuals the laboratory of the clinical psychologist offers a background of controlled emotional interpretation and of tests which can be evaluated and compared from time to time. Hence it may with some validity answer the question, Can gland feeding increase human efficiency?"—S. Rosenzweig (Worcester State Hospital).
242. Max, L. W. An experimental study of the motor theory of consciousness: II. Method and apparatus. *J. gen. Psychol.*, 1935, 13, 159-175.—Description of the method and apparatus in an experiment in which deaf mutes were used as subjects, and in which the action currents resulting from their overt or implicit finger movements were recorded during various types of thinking problems.—H. Cason (Wisconsin).
243. Mies, H. Untersuchungen über den Skelettmuskel-Tonus bei gleichzeitiger Messung an antagonistischen Muskeln. (Investigations on the skeletal-muscle tonus during the simultaneous measurement of antagonistic muscles.) *Z. Biol.*, 1934, 95, 268-76.—(*Biol. Abstr.* IX: 11511).
244. Miller, N. E. Experiments comparing the effects of removal of reward from a learned maze with the phenomena of experimental extinction. *Psychol. Bull.*, 1935, 32, 562-563.—Abstract.—J. F. Dashiell (North Carolina).
245. Mishchenko, M. N. Pro shvidkist utvorenniya timchasovikh sv'yazkiv u gipnotichnomu stani. (The rate of formation of conditioned reflexes in the hypnotic state.) *Méd. exp., Kharkov*, 1935, No. 3, 33-40.—Conditioned reflexes, discriminations and conditioned inhibitions, with various stimuli, were established in 13 subjects under hypnosis and in the waking state. Conditioned reflexes are formed more rapidly under hypnosis than in the waking state, but no pronounced difference exists in the case of discriminations and conditioned inhibitions. The latent period of conditioned reflexes is longer and the reflexes themselves are weaker in the hypnotic state. Conditioned-reflex formation in either state accelerates subsequent formation in the other. Analysis shows an increased excitability in the focus of excitation (Pavlov's "point de garde") under hypnosis, which may be attributed to (1) the phenomena of positive cortical induction, (2) the absence of opposing influence of neighboring cortical and receptor areas, and (3) subcortical influence. The relation of this to the mechanism of hypnosis, particularly with respect to catalepsy, is discussed.—F. S. Keller (Colgate).
246. Mishchenko, M. N. [Peculiarities of voluntary movements of the facial muscles in blind people.] *Sovetsk. Nevropat.*, 1935, No. 7, 121-132.—The peculiarities of voluntary movements of the facial muscles of blind people, investigated by Quint's method, are as follows: facial motor activity in the blind is reduced below that of seeing people; asynchronic movements are more difficult for the blind than are synchronic ones.—A. Yarmolenko (Leningrad).
247. Mullin, F. J., Lees, W. M., & Hastings, A. B. Neuro-muscular phenomena in response to variation in calcium and potassium concentrations in the cerebro-spinal fluid. *Amer. J. Physiol.*, 1935, 113, 100.—"When a balanced salt solution containing inorganic ions in the concentrations in which they exist in cerebro-spinal fluid was substituted for the cerebro-spinal fluid of the dog, there was no change in the state of activity of the musculature studied. When solutions of identical composition, except for the fact that they contained no calcium, were injected a marked increase in muscular activity results."—T. W. Forbes (N. Y. Psychiatric Institute).
248. Pavlov, I. P. [Experimental pathology of the highest nervous activity.] Leningrad: Ogiz, 1935. Pp. 32.—The doctrines of physiology of the highest nervous activity, defined by the author, were used in experiments on animals. After a successful attempt to explain the pathological processes in animals, he applies the same method in explaining the highest nervous activity of man—the so-called psychic activity. Paranoia, neuroses, persecution mania, obsessions, and other psychic diseases are described from the author's point of view.—A. Yarmolenko (Leningrad).
249. Pavlova, A. [The effect of the conditioned reflex upon the size of the unconditioned reflex.] *Fiziol. Zh. U.S.S.R.*, 1935, 18, 725-733.—The size of

the unconditioned reflex depends under similar conditions upon the conditioned reflex, and exceeds it. The action is an induced one. The actions of the cells are united into a system with definite power interrelations.—*A. Yarmolenko* (Leningrad).

250. Phillips, G. Myotatic reflexes in sympathetomized muscle. *Proc. roy. Soc.*, 1932, 110B, No. 768, 412-430.—(*Biol. Abstr.* IX: 11512).

251. Protopopov, V. P. [The conditions of formation of motor habits and their physiological characteristics.] Kharkov: Gosmedgiz USSR, 1935. Pp. 102.—The formation of motor habits in the process of learning and the stimulus-obstacle situation is limited by their mutual action. The motor habit is formed of the elements of the overcoming reaction, and the nature of the obstacle defines this form of habit. Sudden decisions, circuitous solutions, and intermediate aims are different cases of the cortical activity formed in ontogenesis, and can be observed in different species of animals depending on the anatomo-physiological development of the central nervous system and the whole organization, as well as on the conditions of existence.—*A. Yarmolenko* (Leningrad).

252. Pyles, M. K. The effect of emphasizing responses in a discriminatory learning problem. *Psychol. Bull.*, 1935, 32, 543-544.—Abstract.—*J. F. Dashiell* (North Carolina).

253. Razran, G. H. S. Salivary conditioning in adult human subjects. *Psychol. Bull.*, 1935, 32, 561-562.—Abstract.—*J. F. Dashiell* (North Carolina).

254. Rosenbluth, A., & Schwartz, H. G. Reflex responses of the nictitating membrane. *Amer. J. Physiol.*, 1935, 113, 112-113.—"In adrenalectomized cats under urethane anesthesia the nictitating membrane shows a moderate tonic contraction, demonstrable by the relaxation which follows section of the cervical sympathetic. Central stimulation of somatic and autonomic nerves evokes reflex contraction or relaxation. Afferent nerves known to have reflex effects on the blood pressure, the heart rate and the respiration have been found likewise effective in eliciting responses from the membrane. These nerves are muscular, cutaneous and visceral afferents—the latter including both sympathetic and parasympathetic nerves. . . . Simultaneous records of the nictitating membrane and the blood pressure show that, although the responses are usually parallel in sign, relative magnitude and duration, it is possible to abolish this parallelism by suitable stimuli, thus revealing the independence of the two reflexes and showing that the characteristics of the membrane reflexes, e.g., the prolonged after-discharge, are not an indirect effect of blood-pressure changes. The reflexes, indicative of generalized activity of the sympathetic nervous system, constitute a relatively simple arc in which several features and properties of reflexes in general, and of autonomic reflexes specifically may be studied."—*T. W. Forbes* (N. Y. Psychiatric Institute).

255. Ruhl, R. G. Negative practice versus positive practice in the elimination of typing errors. *J.*

gen. Psychol., 1935, 13, 203-211.—The purpose of the experiment was to determine the value of practicing a mistake in the elimination of errors in typewriting. Both the positive practice and negative practice sections of the beginning group improved in accuracy and speed, and the similarity in the improvement of the two groups using different methods suggested the possibility of a common factor underlying both types of training. In the group with considerable previous typing experience, neither the positive practice nor the negative practice section made any improvement in speed or accuracy.—*H. Cason* (Wisconsin).

256. Sackett, R. S. The relationship between amount of symbolic rehearsal and retention of a maze habit. *J. gen. Psychol.*, 1935, 13, 113-130.—Comparable groups of subjects learned a high-relief finger maze and relearned it a week later. One group was instructed not to think of the maze pattern during the interval, and the three other groups were required to rehearse the pattern by thinking their way through it each evening one, three, or five times. Symbolic rehearsal was found to be beneficial to the retention of the maze habit, but a small number of rehearsals was relatively more beneficial than larger amounts. Some three-fourths of the subjects employed visual imagery predominantly in their rehearsal.—*H. Cason* (Wisconsin).

257. Sauer, F. Abhängigkeit der Handgeschicklichkeitsleistung von Lebensalter und Geschlecht. (The dependence of manual skill on age and sex.) *Z. angew. Psychol.*, 1935, 48, 361-387.—The experiments, with pupils between the ages of 7 and 13, dealt with (1) manual skill as dependent upon age, (2) manual skill as dependent upon sex. The tests, general procedure, and results are tabulated. The findings in general show that: (1) In all but one of the tests the influence of age upon manual skill was proved, skill improving with age. (2) In the one test (that of conveying peas by 3's into several receptacles) it was shown that the skill of the middle age-group decreased, while after the age of 11 it gradually increased. This inferior performance of the middle age-group was attributed to decreased exercise of such qualities as patience, carefulness, caution, characteristic of the age 9-11. (3) Speaking very broadly, the manual skill of boys surpasses that of girls in cautious and careful operations on material difficult of manipulation, but in operations requiring rapid, dextrous manipulation of hands and fingers, boys and girls are practically on a par. Bibliography.—*S. W. Downs* (Berkeley, Calif.).

258. Schlossberg, H., & Kappauf, W. E. The role of "effect" in conditioned leg withdrawal. *Psychol. Bull.*, 1935, 32, 562.—Abstract.—*J. F. Dashiell* (North Carolina).

259. Sklyarov, Ya. P. Zagalni risi bezumovno-reflektornoj parnoi diyal'nosti kolovushnikh zaloz. (General characteristics of the simultaneous unconditioned-reflex function of the two parotid glands.) *Méd. exp., Kharkov*, 1935, No. 2, 66-73.—Investigation of the effects of various excitants, different amounts of nourishment, etc., upon the uncondi-

tioned-reflex function of both parotids, simultaneously excited, shows the function of the two glands to be in general identical. Slight variations observed are traceable to change in intensity of the processes in the corresponding pathways of the reflex. The results indicate that quantitative change in the function of the glands depends upon the localization of stimulation on the buccal mucous membrane (if applied to the right side the function of the right parotid is greater, and vice versa). The possibility exists of provoking an excitatory effect more in one parotid than in the other, since the process follows for the most part the unilateral arc of the reflex, affecting the opposite side but little.—*F. S. Keller (Colgate)*.

260. **Smith, E. A. Salivary secretion during thirst.** *Amer. J. Physiol.*, 1935, **113**, 123.—"Salivary secretion during a control interval was measured in a series of normal adults. Thirty to 100 cc. saturated solution of sodium chloride was then introduced into the stomach and the collection continued during the succeeding period of desire for water. The flow of saliva was diminished in some subjects; in others it was increased; in none did it cease. Subjectively the call for water was assigned to the throat or stomach."—*T. W. Forbes (N. Y. Psychiatric Institute)*.

261. **Soler i Dopff, C., & Alier, J. J. Esforç muscular i treball mental.** (Muscular strength and mental work.) *Rev. Psicol. Pedag.*, 1934, **2**, 285-315.—The authors studied the influence of mental activity on mechanical work by the simultaneous application of the dynamographic and Mira's PP test (the repetition as rapidly as possible of words beginning with P). The subjects were 899 students and normal-school pupils. There was no parallelism between the two curves, the verbal one always being longer and more irregular. The usual effect of the simultaneous mental effort was to increase the muscular output by diminishing the effort zone and increasing the zone of normal work. This is probably due to the fact that psychic activity automatically stimulates the physiological unit of muscles, nervous system, heart, lungs, and blood composition (hydrogen ions and glucose), necessary for efficient muscular work. In last resort this mechanism depends on the motor cortex, the influence of which is especially marked at the beginning of work and in emotional stresses. The article includes references and graphs.—*M. E. Morse (Baltimore)*.

262. **Spiesman, I. G., & Gellhorn, E. The influence of variations of O₂ and CO₂ tension in the inspired air upon cortical and subcortical processes in men.** *Amer. J. Physiol.*, 1935, **113**, 125-126.—"The influence of O₂-lack and CO₂ on cortical processes was studied by determining the acoustic threshold with the aid of an audiometer and by measuring the duration of the latent period of negative after-images under standard conditions . . . O₂-lack produced by breathing air from a Douglas bag containing 7.5 to 11 per cent CO₂ for 7 to 30 minutes increases the hearing threshold and lengthens the latent period of negative after-images. The effects are considerable and may extend over a long time in spite of the re-

admission of air or of even richer O₂-mixtures. The effects of inhalation of 4 to 7 percent CO₂ are similar but less severe . . . O₂-lack may be of no influence on nystagmus under conditions which regularly influence auditory and visual processes. . . . According to these investigations it seems to be characteristic of the sensory cortex that it reacts to any alteration in the O₂ and CO₂-tension of the blood with a decrease in excitability and relatively long after-effects. These changes in excitability are most likely due to a cellular disturbance in the visual and auditory cortex. In contradistinction to these findings, the brain stem mechanism involved in nystagmus reacts [qualitatively and quantitatively in a different manner] from the cortex, but similarly to the spinal cord."—*T. W. Forbes (N. Y. Psychiatric Institute)*.

263. **Stutte, H. Experimentelle Untersuchungen über Simulation von Zittern der Finger.** (Experimental studies on simulation of tremor of the fingers.) Giessen: O. Kindt, 1934. Pp. 27.—Using Sommer's apparatus for the three-dimensional registration of movements, Stutte found that tremors were usually caused by alternating pronation and supination of the hand. In simulated tremor the curve is changeable, often showing voluntary movements and arrest at the height of an oscillation. This contrasts with the uniformity of organic tremors. An artificial tremor is more uniform in the hand regularly used. The frequency, duration, height, and form of the oscillations vary greatly even within a single curve. Their number is 6-48 per second. A simulated tremor can be maintained for only a short time on account of the quick fatigability of the hand, and it is very susceptible to psychic influences.—*H. Stutte (Giessen)*.

264. **Todd, J. W. Individual and sex differences in certain motor and verbal reactions.** *Psychol. Bull.*, 1935, **32**, 546.—Abstract.—*J. F. Dashiell (North Carolina)*.

265. **Weber, H. Zur graphischen Analyse der Bewegungen der Visierlinie während des Zielens und deren Beziehungen zum Abkommen.** (Graphic analysis of the movement of the line of sight in taking aim and its influence upon the shot.) *Arch. ges. Psychol.*, 1935, **94**, 33-121.—An analysis of the factors involved in the handling of the rifle and of the effects of previous activity, of fatigue, etc., upon handling of firearms. Laboratory experimentation was carried out; the apparatus used is described. Studies were made also in shooting in the open, both riding and stationary shooting. A series of tabulations showing results are included in the article. Practice improvement is discussed. Horizontal variations in comparison with vertical are studied. The effect of instruction upon practice was found to be positive. A large number of tables show correlation between different factors involved in the art of handling the rifle, and tables reveal individual idiosyncrasies.—*A. B. Herzig (Michigan Central State Teachers College)*.

266. **Wirth, W. Psychophysische Beiträge zur Lehre vom Zielen und Schiessen.** (A psychophysical contribution to the study of aiming and shooting.) *Arch. ges. Psychol.*, 1935, **94**, 1-32.—The article deals

with the psychophysics of aiming and shooting portable firearms as one phase of the whole of psychophysical ballistics. It reviews in detail earlier studies of Meyer, who followed the Wundt principles of psychological analysis. His subjective studies yielded little of value in training, where only the objective attitude dominates. Feige has more recently made studies of maximal precision in shooting. Hildebrandt studied visual acuity in aiming and distance perception. He constructed a sub-target for his studies. The German training institute for handling portable firearms devised a practice apparatus in 1924, the advantages of which are set forth. The author has constructed an apparatus which will be described in a second article.—A. B. Herrig (Michigan Central State Teachers College).

267. Woletz, F. Quantitative Untersuchungen über den postrotatorischen Nystagmus. (Quantitative studies on post-rotatory nystagmus.) *Z. Hals- u. Ohrenheilk.*, 1933, 33, 376-513.—(*Biol. Abstr.* IX: 11491).

268. Wyman, L. C., & tum Suden, C. Differential depression of vasomotor mechanisms by adrenin. *Amer. J. Physiol.*, 1935, 113, 271-278.—T. W. Forbes (N. Y. Psychiatric Institute).

269. Yamamoto, K. Competition and the transposition of "Anspruchsniveau" in joint works. *Jap. J. Psychol.*, 1935, 10, 409-435.—In the first experiment two persons were required by the experimenter (1) to pick up soy beans as fast as possible, (2) to shoot at a target, (3) to guess at the number of balls in two cups, (4) to draw with a mirror-drawing apparatus, (5) to make a verse, and (6) to solve a puzzle. The author found that they did their work sometimes in a competitive attitude, sometimes cooperatively, and less frequently quite indifferently to each other. In the second experiment it was aimed to determine whether the difference was due to the combination or to individual differences, and to determine the relation of joint work and single work. It was shown that the competitive attitude is more closely related to the character of the work than to that of the worker. The third and fourth experiments, in which a questionnaire method was used, show that every worker has his own view of work, his own opinion of work from the viewpoint of value. The results of these experiments together with the last one, in which a questionnaire method was adopted in joint work, can be expressed schematically in three different kinds of transposition of "Anspruchsniveau": the first is the case where two workers show faculties of almost the same level, the second where there is some distance between them, and the third where there is an extreme difference between them.—R. Kuroda (Keijo).

270. Yamane, K. The endurance of grip of sportsmen. *Jap. J. appl. Psychol.*, 1935, 3, 449-458.—When examined on the basis of hand grip it was found that sports in which superior physical strength is needed and can be cultivated as well are rowing, swimming and judo, while those necessitating not too much strength are riding, archery, association football

and tennis. A momentary display of physical strength does not always run parallel with endurance. Endurance is great in judo, baseball and swimming, and is small in football, rowing, riding and basketball. Sports in which the endurance of the left hand is weak show endurance curves that proceed approximately horizontally after an initial sudden descent. It is also noted that the left hand is well developed and the difference from the right hand in grip is very small in fencing, baseball, swimming, judo and archery.—R. Kuroda (Keijo).

[See also abstracts 9, 23, 34, 55, 115, 133, 135, 140, 142, 156, 158, 163, 165, 169, 178, 179, 180, 183, 184, 185, 191, 192, 273, 275, 282, 292, 299, 300, 301, 303, 309, 328, 335, 337, 342, 359, 399, 425, 490, 556, 563, 566, 572, 668, 683.]

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271. Abbott, E. The appearance of tours and rolls in the song of the roller canary. *Psychol. Bull.*, 1935, 32, 526.—Abstract.—J. F. Dashiell (North Carolina).

272. Bousfield, W. A., & Spear, E. Influence of hunger on the pecking responses of chickens. *Amer. J. Psychol.*, 1935, 47, 482-484.—Chickens which had been starved 22 to 24 hours were permitted to peck at grains of corn placed upon modelling clay. The average time per peck, the energy required (as measured by the depth of the marks in the clay), and the accuracy of the pecking were determined, and compared with similar measures made by the chicken when not hungry. It was found that the energy used increased, while the time required and the accuracy decreased. It is suggested that a more exact description of the somatic reflex facilitation of hunger is possible.—D. E. Johanssen (Skidmore).

273. Britton, S. W., & Kline, R. The influence of partial and complete adrenalectomy on reproduction and lactation. *Amer. J. Physiol.*, 1935, 113, 17.—"Complete protection of the normal reproductive and lactating functions of the rat appears to be afforded after adrenalectomy by the administration of cortico-adrenal extract."—T. W. Forbes (N. Y. Psychiatric Institute).

274. Brown, C. W. Spinal cord mechanisms involved in solving problems in sensory discrimination: II. The ability of rats with spinal cord lesions to discriminate linear distances. *Psychol. Bull.*, 1935, 32, 527-528.—Abstract.—J. F. Dashiell (North Carolina).

275. Buel, J. Multiple gradients in mazes. *Psychol. Bull.*, 1935, 32, 528-529.—Abstract.—J. F. Dashiell (North Carolina).

276. Buytendijk, F. J. J., Fischel, W., & ter Laag, P. B. Beiträge zur Analyse der tierischen Handlung. (Contributions to an analysis of animal action.) *Arch. néerl. Physiol.*, 1934, 19, 509-528.—Attempts were made to train rats to do simple aimless sequences of movements, such as running back and forth on a straight lath. Various methods to cause the animal to make the aimless sequences of movements were employed. None of the methods led to habituation,

beyond a very limited amount. It is concluded that aimless acting of rats cannot lead to habituation, or only with great difficulty and in small degree.—C. P. Stone (Stanford).

277. Buytendijk, F. J. J., Fischel, W., & ter Laag, P. B. *Über den Zeitsinn der Tiere.* (On the time sense of animals.) *Arch. néerl. Physiol.*, 1935, 20, 123-154.—A rat was trained to run from one chamber to another after a delay of $2\frac{1}{2}$ (first series) and 4 minutes (second series). After approximately 100 trials, it reacted to about the right time, but usually somewhat early. During the waiting period four ways of behaving were displayed: indifference, unrest, tension, and passing from one to the other chamber. Rats trained in a choice apparatus of the Tolman type learned to differentiate between a six- and a one-minute wait. A rat that was fed at a certain spot every six hours for several weeks was found to show food expectancy by its movements near this spot 57 minutes, on the average, before the end of the six hours. A dog was habituated in a stanchion of the Pavlov type to push forward a trap door every $1\frac{1}{2}$ minutes, behind which there was a piece of meat. Breathing records taken during this time reflect an attentive attitude as the dog waits for the time to push the door. To explain the facts the authors assume that there exists an antagonism between the desire for food and the waiting for the fixed time to expire from one feeding to the next.—C. P. Stone (Stanford).

278. Cate-Kazewja, B. ten. *Quelques observations sur les Bernards l'Ermite (Pagurus arrosor).* (Some observations on hermit crabs.) *Arch. néerl. Physiol.*, 1934, 19, 502-508.—Mechanical stimulation of the abdomen or the front parts of the body of the hermit crab causes it to retreat into its protecting shell. Normally the abdomen is constantly held in the shell. Through stimulations repeated over a period of ten days it is possible to produce a condition in which the animal will flee from the shell upon the first touch applied to the abdomen, as opposed to making the typical withdrawal response into the protecting shell.—C. P. Stone (Stanford).

279. Chandler, C. *Rate of maturation of vocal patterns in the roller canary.* *Psychol. Bull.*, 1935, 32, 529-530.—Abstract.—J. F. Dashiell (North Carolina).

280. Cockerell, T. D. A. *Zoology and the moving pictures.* *Science*, 1935, 82, 369-370.—The superiority of moving pictures over observation for collection of scientific data is stressed. Motion pictures of the team work of a group of ants and of a group of beavers working on a cooperative project but with each working alone are cited as valuable examples of the motion picture for education and science.—R. Goldman (Clark).

281. Dennis, W. *A comparison of the rat's first and second explorations of a maze unit.* *Amer. J. Psychol.*, 1935, 47, 488-490.—"The two experiments agree with one previously conducted in showing that the rat's entrance of a section of a maze unit decreases for some time its likelihood of entering the

same section. Since these results were obtained with different rats, with two types of maze units and two sizes of one unit, and with two methods of inducing the animal to make a second choice, the results have at least some degree of generality. . . . These studies are further evidence for the view, previously proposed, that negative adaptation to pathways is an important part of maze mastery, and that a reward, instead of eliminating excess movements, prevents the occurrence of complete negative adaptation."—D. E. Johanssen (Skidmore).

282. Dove, W. F. *A study of individuality in the nutritive instincts and of the causes and effects of variations in the selection of food.* *Amer. Nat.*, 1935, 69, 469-544.—The author applies the concept of individuality as opposed to mean reactions of a group to the analysis of certain biological problems. The food-seeking instinct is the one chosen for specific experimental study, and a genetic, behavioristic, and mechanistic interpretation of the individual differences is given. As a result of his experimentation the author proposes a group of working principles or laws of the nutritive instincts. These laws are held applicable as a cosmic principle to all phenomena in which a controllable individuality and a conditionability exist—whether it be biological processes, the higher faculties of intelligence, will, etc., or the conative processes.—R. Garner (Clark).

283. Drew, G. C. *The effects of a mixed incentive on the behaviour of rats.* *Brit. J. Psychol.*, 1935, 26, 120-134.—An attempt was made to study the effect of mixed reward and punishment on an animal's performance of a simple task. Rats learned to run from the release box to the food-box. When their speed had become reasonably constant, they were divided into four groups: (1) was confined in the food-box without food, (2) was confined while a bell rang loudly, as punishment, (3) was given the food reward as well as punishment, (4) the control was given food as before. The speed of (1) decreased steadily, and that of (2) even more so, while that of (4) remained approximately constant. But the speed of (3) increased considerably, in spite of the fact that the rats appeared to be much frightened by the bell.—M. D. Vernon (Cambridge, England).

284. Durrant, E. P. *Influence of the female white rat on bodily activity of the male.* *Amer. J. Physiol.*, 1935, 113, 37.—"White rats in self-recording activity cages were arranged in isolated groups of three each, the female between two males with the three cages in line and the convex rotating surfaces of the rotating cages within an inch of each other. . . . Whereas a number of males placed in a separate room and in close proximity do not show such wide variations in activity from day to day, nor the characteristic four to five day high peaks as seen in females under like conditions, in this experiment the males took on a rhythmic variation agreeing in 85 per cent of instances with that of the associated female."—T. W. Forbes (N. Y. Psychiatric Institute).

285. Farnham, A. N. *Undertone patterns in the chirps of young roller canaries.* *Psychol. Bull.*, 1935, 32, 533.—Abstract.—J. F. Dashiell (North Carolina).

286. Flüge, C. Geruchliche Raumorientierung von *Drosophila melanogaster*. (The olfactory orientation of *Drosophila melanogaster* in space.) *Z. vergl. Physiol.*, 1934, 20, 463-500.—In various experiments fruit flies located covered food sources when vision was excluded by covering the eyes with asphaltum. Weakly concentrated pear jam excited the insects to cleaning movements and to excited (phobic) running about. When fairly concentrated jam was used, the flies could run directly toward the source (tropotaxis) from a distance of 18-35 cm., even in still air. Air currents excited "phobic movements," but were not followed. However, an air current bearing jam gases was followed to its source in a precise manner at more than twice the normal speed of locomotion. For orientation in gradients of gases, the olfactory pits of the antennae are effective at a greater distance than are the sense cones. Elimination of the former receptors by shellacking restricted the direct course to a radius of 10 cm. around the source. Both sense cones and olfactory pits function in tropotaxis according to the number of intact cells and not according to their position on the antennae. The behavior of fruit flies deprived of one antenna, when responding to a food source or to a "repellent" gas, shows that both types of receptor cell function in the initial "arousal" response as well as in the tropotactic location of the source. In escaping from a nitrobenzol field the unilaterally operated animal turned toward the operated side, but a direct passage away from such stimulus sources was not characteristic even with intact animals. This contrasts with the direct course toward "attractive" substances.—T. C. Schneirla (New York University).

287. Foley, J. P. Second year development of a rhesus monkey (*Macaca mulatta*) reared in isolation during the first eighteen months. *J. genet. Psychol.*, 1935, 47, 73-97.—Continuing an earlier study (see IX: 187) on the first year, this one covers the second year, of which the first half was also spent in isolation and the second half in association with other monkeys. Developmental changes were noted under: (1) physical development, (2) sensorimotor and simple behavioral development (yawning, scratching, walking, vocalizing, etc.), and (3) complex behavioral development (general patterns of feeding, laying hold, playing, emotional behavior, sexual behavior, perceiving, etc.). In some lines the second-year changes were striking. The writer frequently points out the importance of environmental opportunities in the development of the more complex and more definitely patterned responses as a factor that must not be neglected.—J. F. Dashiell (North Carolina).

288. Foley, J. P. The comparative approach to psychological phenomena. *Psychol. Rev.*, 1935, 42, 480-490.—The thesis is advanced that treatises in general psychology are too narrow in scope if based exclusively on *Homo sapiens*, and that animal psychology should not be considered a distinct field. Of the three points of view, the anthropocentric, the organismic-centric, and the behavioric-centric, the

last is preferred, as making the various forms of behavior the subject matter of psychology, regardless of whether they are found in human or in infra-human subjects.—A. G. Bills (Chicago).

289. Godglück, U. Umdrehbewegungen und Lichtreaktionen der kataleptischen *Neidse tipularis* L. (Righting movements and light reactions of the cataleptic *Neidse tipularis* L.) *Biol. Zbl.*, 1935, 55, 187-197.—Tapping the thorax of the gnat *Neidse* throws it into a cataleptic state. Light produces an increased frequency of movements during catalepsy by way of the skin receptors, even if the eyes have been removed. Light very frequently results in a righting movement, but for this purpose the stimuli must be received through the facet-eyes.—E. R. Hilgard (Stanford).

290. Grabensberger, W. Der Einfluss von Salicylsäure, gelbem Phosphor und weissem Arsenik auf das Zeitgedächtnis der Ameisen. (The effect of salicylic acid, yellow phosphorus and arsenic trioxide on the temporal memory of ants.) *Z. vergl. Physiol.*, 1934, 20, 501-510.—Ants of *Myrmica laevinodis* and *Lasius niger* colonies, trained to visit a food place at a certain hour of the day, were then given food containing one or another of certain drugs in a certain strength. After having been fed for two days on .005% arsenic, the ants appeared in greatest numbers $3\frac{1}{2}$ hours before the training hour; after a dose of .001% arsenic they came at the training time; and after a dose of .001-.002% arsenic the peak of visiting came more than three hours later than the training time. These results are interpreted in terms of the anabolic or the catabolic effects of the drugs in doses of different strengths. Other experiments have shown that temporal memory varies according to the metabolic condition of the insect.—T. C. Schneirla (New York University).

291. Harreveld, A. v., & Kok, D. J. Über die akute Bulbokapninvergiftung beim Pferde. (Acute bulbokapnine poisoning of horses.) *Arch. néerl. Physiol.*, 1934, 19, 554-562.—Small doses of bulbokapnine administered to a horse produced the essential symptoms of bulbokapnine catalepsy as described in cats and other animals. The horse stands motionless with a peculiar staring look, will move slowly if forced, can be guided by the rein only with difficulty, and cannot be made to back except when the dosage is very slight. The symptoms last from a quarter to a half hour and then slowly disappear, after which the horse is entirely normal.—C. P. Stone (Stanford).

292. Hasratian, E. [The effect of simultaneous neurotomy of both cervical sympathetic nerves on food reflexes in dogs.] *Fiziol. Zh. U.S.S.R.*, 1935, 18, 738-759.—A. Yarmolenko (Leningrad).

293. Henry, F. Comparative thresholds of audition in the rat. *Psychol. Bull.*, 1935, 32, 536.—Abstract.—J. F. Dashiell (North Carolina).

294. Hertz, M. Eine Bienendressur auf Wasser. (A training of bees to water.) *Z. vergl. Physiol.*, 1934, 21, 463-467.—Bees were trained to suck sugar water from a Petri dish through wire gauze. The con-

centration of the nectar was gradually reduced. After a few hours the bees would assemble over glasses which contained distilled water or saline solution, lemon juice, milk, or moist earth. They did not alight upon glasses which were empty or which contained alcohol or glycerine. This discrimination apparently depended upon moisture content of the air over the different containers.—*T. C. Schneirla* (New York University).

295. **Honzik, C. H.** Studies in the sensory basis of the maze habit: III. The role of extra-maze auditory stimuli. *Psychol. Bull.*, 1935, **32**, 537.—Abstract.—*J. F. Dashiell* (North Carolina).

296. **Horton, G. P.** An experimental study of stimulation deafness in guinea pigs. *Ann. Otol., etc., St. Louis*, 1935, **44**, 252-259.—Guinea pigs were conditioned to respond to the appearance of a loud tone by a change in breathing. Sensitivity curves were established by presenting to each animal a loud tone the intensity of which was lowered in steps of 5 db to a point below audibility. The intensity was raised in the same manner. The test was repeated for eight octave tones. In one group a tone of 1500 cycles was used and in a second group one of 3000 cycles. After sensitivity curves were obtained each experimental group was exposed to its particular stimulating frequency for ten hours daily for a minimum of 125 days. A small general loss of sensitivity was found which varied among individual animals and from tone to tone. The loss had not been recovered at the time of retest three and a half months later.—*D. J. Ingle* (Mayo Foundation).

297. **Howard, E.** The nature of a bird's world. New York: Macmillan, 1935. Pp. vii + 102. \$2.50.—(Not seen).

298. **Hubbs, C. L.** Nature's own seaplanes. *Smithsonian Inst. Ann. Rep.* (1933), 1935, 333-348.—The flying fish secures momentum for flight by caudal vibratory movements under water, with the fore part of the body and the pectoral fins outstretched in the air. In the flight itself the fish volplanes with pectoral and pelvic fins taut. Estimates of the duration of flights range from one to thirty seconds. There is a discussion of the aerodynamic principles involved.—*C. M. Louttit* (Indiana).

299. **Hunter, W. S.** Conditioning and extinction in the rat. *Brit. J. Psychol.*, 1935, **26**, 135-148.—Rats that condition quickly, from running in response to a shock to running at the sound of a buzzer, may have their responses extinguished either quickly or slowly; but rats which condition slowly have their responses extinguished quickly (51 cases). Rats that condition quickly also tend to recondition quickly 30 days later (40 cases). Rats that were conditioned to the buzzer and their responses then extinguished showed a good retention of the responses after 30 days of rest. Conditioning is quicker on the average if the unconditioned stimulus shock is not given after the conditioned response has been made. Extinction of the response to the buzzer, under conditions where the shock is not used, required an average of 63-66 min., with a range of from 1 to 164 min. Where the

buzzer response was extinguished by shocking the rat if it responded to the buzzer and not shocking it if it did not so respond, the average extinction time was 6.8 min. with a range from 2 to 19 min.—*M. D. Vernon* (Cambridge, England).

300. **Hunter, W. S.** A curve of experimental extinction in the white rat. *Science*, 1935, **82**, 374-376.—21 previously untrained blind white rats were conditioned to run in response to a buzzer. The apparatus and general procedure used are outlined in *Science*, 1935, **81**, 77-78. "The sequence of buzzer and (possible) shock was continued until the rat had made at least a 4-inch response for 10 successive presentations. (With the method used here this would mean ten conditioned responses without reinforcement.) The buzzer then continued to be sounded, without reinforcement at any time, until the rat failed to make an adequate response for 5 successive stimulations, at which time the arbitrarily set standard of extinction was reached. The total period of extinction thus extended from the beginning of the first 10 successive conditioned responses through the last of the 5 presentations of the buzzer which elicited no adequate locomotor response." Conditioning and extinction were accomplished in one experimental period. Vincent curves for the extinction of the conditioned locomotor response are presented. "The unusual feature of these graphs is the sudden drop at the end, indicating the sudden elimination of the conditioned response." From a comparison of other curves in the literature, it is apparent that there is no one curve for extinction. A brief comment is made regarding the relation between conditioning and extinction and learning and forgetting.—*R. Goldman* (Clark).

301. **Ingle, D. J., Hales, W. M., & Haslerud, G. M.** Influence of partial adrenalectomy on the work capacity of rats. *Amer. J. Physiol.*, 1935, **113**, 200-204.—Using a previously described technique it was found that totally adrenalectomized rats quickly lost their capacity for muscular response and that where the adrenalectomy was partial the work accomplished under anesthesia was directly related to the amount of adrenal tissue remaining.—*T. W. Forbes* (N. Y. Psychiatric Institute).

302. **Jacobsen, C. F.** Functions of frontal association area in primates. *Arch. Neurol. & Psychiat., Chicago*, 1935, **33**, 558-569.—Unilateral lesions of the frontal association area of either hemisphere in monkeys and chimpanzees resulted in no impairment of learned tasks. Bilateral lesions had no effect upon the performance of problem box and visual discrimination habits, but produced profound impairment of performance in delayed reaction situations. Incomplete bilateral lesions resulted in a shortening of the length of the possible period of delay. Extensive reeducation after operation failed to reestablish the habit in animals with complete lesions and did not materially improve the performance after partial lesions. This defect in memory cannot be interpreted as a generalized deterioration of intelligence, but appears to be a specific impairment of recent memory. The fact that no defect followed lesions of any but

the frontal areas indicates a high degree of specialization in the associative functions of the cortex in primates in contrast to the widespread equipotentiality which has been shown to operate in the cortex of the lower animals.—D. G. Marquis (Oxford, England).

303. Liddell, H. S., Anderson, O. D., Kotyuka, E., & Hartman, F. A. The effect of cortin upon the experimental neurosis in sheep. *Amer. J. Physiol.*, 1935, 113, 87-88.—"Subcutaneous injections of cortin in the neurotic sheep greatly increased the vigor of the conditioned flexions of the forelimb and at the same time decreased the frequency of the spontaneous movements of this limb. The animals were quieted and became more cooperative both outside and inside the laboratory. Cortin also increased the conditioned reflex in normal sheep. The above results are in accord with those obtained in man. The repeated subcutaneous injection of 1:200,000 adrenalin solution had an effect upon the behavior of the sheep exactly opposite to that of cortin. Adrenalin decreased the vigor of the conditioned reflex in both normal and neurotic animals, and in the latter it aggravated the nervous condition."—T. W. Forbes (N. Y. Psychiatric Institute).

304. Merton, H. Zwangsreaktionen bei Stentor als Folge bestimmter Salzwirkungen. (Forced movements in *Stentor* as a result of the action of certain salts.) *Biol. Zbl.*, 1935, 55, 268-285.—Movements and reversals of *Stentor* in the presence, at different concentrations, of the positive ions K, Ca, Mg, Na, Cs, Rb, NH₄, and of the negative ions Cl, Br, I, HPO₄, H₂PO₄, NO₃, SO₄, CO₃.—E. R. Hilgard (Stanford).

305. Molitor, A. Neue Versuche und Beobachtungen an Grabwespen, VII. (New experiments and observations on sand-wasps, VII.) *Biol. Zbl.*, 1935, 55, 163-168.—Observations on the memory for places of *Cerceris rhybensis* and *Cerceris quadricincta*.—E. R. Hilgard (Stanford).

306. Mottley, C. McC. A note on the role of vision in the spawning migration of trout. *Copeia*, 1934, No. 2, 98.—(*Biol. Abstr.* IX: 11464).

307. Musgrave, H. A preliminary study of some esthetic aspects of the song of the roller canary. *Psychol. Bull.*, 1935, 32, 542.—Abstract.—J. F. Dashiell (North Carolina).

308. Nissen, H. W., & Elder, J. H. The influence of amount of incentive on delayed response performances of chimpanzees. *J. genet. Psychol.*, 1935, 47, 49-72.—Four young chimpanzees were tested on different types of delayed response apparatus (turntable, pull-in, and two-box). With a given amount of incentive (weight of banana section) an animal was tested for longer and longer delay intervals, until a limit was reached; then the amount was changed by increase or decrease, and the procedure repeated. Without exception, increasing the quantity of the lure raised the delay limits, whereas decreasing the lure lowered the limits. Some perseverative effects of practice with a given amount of lure appeared, but

not enough to obscure the above finding. Once adaptation was established, mere practice through repetition was of no effect.—J. F. Dashiell (North Carolina).

309. Petrova, M. K. [Latest data on the action of bromides on the highest nervous activity.] Moscow: VIEM, 1935. Pp. 204.—The book summarizes experimental data on bromine effects on the highest nervous activity of dogs, obtained during ten years of investigation. The bromine effects and hypnosis, inhibition, neuroses, narcolepsy, neurasthenia and other disturbances are analyzed.—A. Yarmolenko (Leningrad).

310. Schiller, P. v. Kinematoskopisches Sehen der Fische. (Cinematoscopic vision in the fish.) *Z. vergl. Physiol.*, 1934, 20, 454-462.—When two lights appear in close succession, so that two well-separated areas of the retina are successively stimulated, the minnow behaves as though a moving light had flashed across its visual field. Thus the fish appears to possess the necessary sensitive and nervous equipment for a phenomenon which is evident in human perception. Four subjects were used, and were trained for the test by being fed in connection with the actual movement of a small lighted area. As olfactory control, a glass plate covered the stimulus card which was at one end of the aquarium. After training, which required about 60 trials, two simultaneously appearing points of light (60 cm. apart) were discriminated from successively appearing lights, but within 200 trials the subjects did not differentiate between "actual" movement and "cinematoscopic" movement.—T. C. Schneirla (New York University).

311. Schwarz, E. Beiträge zur Genetik der Refraktion. I. Variationsstatistische Augenuntersuchungen an Kaninchen. (Contributions to the genetics of refraction. I. Ocular investigations by variability statistics on the rabbit.) *v. Graefes Arch. Ophthalm.*, 1933, 129, 361-378.—(*Biol. Abstr.* IX: 11486).

312. Stone, C. P., Barker, R. G., & Tomilin, M. I. Sexual drive in potent and impotent male rats as measured by the Columbia obstruction apparatus. *J. genet. Psychol.*, 1935, 47, 33-48.—24 potent (copulating) and 31 impotent (non-copulating) male rats of comparable ages were tested for copulating in home cage, in preliminary tests with the apparatus, and in the intervals between sub-tests; a clear differentiation of the two groups was found. Tested for crossings and contacts in the apparatus, the potent animals clearly showed higher scores. However, a few individuals of the impotent group showed high frequency of crossing, which suggests that other factors beside copulating tendency determine whether an animal will cross the grid. It is further stated that failure to control the factors of potency and impotency renders equivocal the data reported by Jenkins and Nissen.—J. F. Dashiell (North Carolina).

313. Turner, W. D. The development of perception: I. Visual direction; the first eidoscopic orientations of the albino rat. *J. genet. Psychol.*, 1935, 47, 121-140.—To observe the early stages in non-tropistic visual orientation (i.e. "eidoscopic"

orientation to complex images) cinematographic records were taken of rats 14-19 days old, previously kept in the dark, as they moved from a starting point in a brilliantly illuminated area toward a dark exit door. Quantitative analysis of the courses taken and their angles of deviation from a straight line indicates that the animals seem capable of fairly accurate original orientations, their improvement in that regard being more an increased perception of the exit-significance of the door than a gradual reduction of spatial error.—*J. F. Dashiell* (North Carolina).

314. Visser, J. A., & Rademaker, G. G. J. Die optischen Reaktionen grosshirnloser Tauben. (The optical reactions of decerebrate doves.) *Arch. néerl. Physiol.*, 1934, 19, 482-501.—Doves without the cerebrum show various kinds of head nystagmus under the influence of optical stimuli. Stimuli were moved in the horizontal, sagittal, and vertical planes; they were also rotated about the head of the pigeon. After-nystagmus appearing under various circumstances is discussed. The authors believe that nystagmic phenomena occurring during rotation may be explained by algebraic summation of labyrinthine and optical influences which, according to circumstances, either counteract or intensify each other. Similarly, appearance or non-appearance of after-nystagmus when rotation has ceased may be explained by algebraic summation of labyrinthine and optical after-effects.—*C. P. Stone* (Stanford).

315. Visser, J. A., & Rademaker, G. G. J. Die optischen Reaktionen grosshirnloser Tauben. Mitteilung II. Photokinetische und phototropische Reaktionen. (Optical reactions of decerebrate doves. II. Photokinetic and phototropic reactions.) *Arch. néerl. Physiol.*, 1935, 20, 103-115.—Doves that are deprived of the cerebrum move about more in a lighted room than in a dark one. Sudden darkening or a strong light will inhibit movement and bring the animals to a standstill. They run or fly toward well lighted spots or objects in a room, but avoid strongly lighted or shining articles. They will jump down from a wooden box 15 centimeters high if the box rests on a well lighted base, but if the box rests on a shiny piece of carton they will not jump at all. If the box is illuminated on only one side, they will jump down on that side only. Decorticated doves fly toward poorly lighted spots, stripes or objects only if the latter contrast strongly with their surroundings. They avoid large shadow spots when running, and step over shadow stripes. They will fly toward a horizontal shadow line that is projected from a vertical wall providing the line forms a clear contrast with the wall. They peck at grain and spots that contrast strongly with the floor. Very strong light causes blinking of the eyelids, but threatening gestures do not.—*C. P. Stone* (Stanford).

316. Walker, G. A method for numbering laboratory rats. *Science*, 1935, 82, 397-398.—A method for numbering animals which has been found easy and completely reliable is suggested. The toes of the hind feet are taken as units and the toes of the forefeet as 10's. By cutting only the toes the numbers can

be brought up to 99. No. 100 is made by punching a small hole in the ear. Combinations of notches, holes, and toes carry the numbers up to 10,000. No. 10,000 is made by clipping about half an inch off the tail, and combinations can be carried on as high as needed.—*R. Goldman* (Clark).

[See also abstracts 32, 73, 137, 138, 156, 157, 158, 162, 163, 170, 176, 181, 190, 193, 198, 234, 247, 328, 342, 359.]

EVOLUTION AND HEREDITY

317. Boas, F. The tempo of growth of fraternities. *Proc. nat. Acad. Sci., Wash.*, 1935, 21, 413-418.—Data collected relative to hereditary and environmental influence in determining tempo of development of stature indicate that "the brothers and sisters of tall children, who include many of those with rapid tempo of development, will also have a rapid tempo, an early time for the maximum rate of growth, a rapid rate and an early termination of growth, while the brothers and sisters of the short ones, who include many of those with sluggish tempo of development, have a slow rate of growth of less intensity and longer duration." That environment is equally a determinant of tempo appears from examination of other data, particularly those gathered from children of Jewish immigrants, and from institutionalized children whose growth is found to depend in part upon dietary adequacy.—*F. S. Keller* (Colgate).

318. Boestroem, A. Wichtige Entscheidungen aus der Rechtsprechung der Erbgesundheitsgerichte und Erbgesundheitsobergerichte. (Important decisions in the administration of justice in the court and higher court of eugenics.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 271-284.—This is a collection of various decisions handed down in regard to sterilization laws. Some of these are of great use to the judges, others are important and significant for physicians. The first section is devoted to decisions of a general nature, such as the decree of the minister of the interior concerning the carrying out of the laws to prevent inherited disease, in which the cases in most urgent need of sterilization are given. These are feeble-minded persons, all forms, particularly those who are slightly deficient but physically sound, between the ages of sixteen and forty years; young schizophrenics and manic-depressives; epileptics; alcoholics under fifty years of age who are capable of reproduction; and young people, hereditarily blind, deaf, etc. Under decisions concerning the question of capability of reproduction is one in which the probability and possibility are both weighed. When there is a bare possibility (at the end of the menopause) but low probability, sterilization is forbidden. Other decisions concerning congenital feeble-mindedness as a ground for sterilization are also discussed.—*D. S. Oberlin* (Newark, Del.).

319. Burks, B. Problems in eugenics of personality. *Eugen. News*, 1935, 20, 76.—Constituent qualities of personality "are characteristic of individual species, family groups, and individuals, and are highly hereditary. The joint task of psychometry

and eugenics is first to measure these qualities, then to find the rules which govern their inheritance. Educational investigation comes as a third collaborator in the very difficult problem of separating the influences of heredity and environment."—*M. V. Louden* (Pittsburgh).

320. **Carter, H. D.** *Twin-similarities in emotional traits.* *Character & Pers.*, 1935, 4, 61-78.—The test used was the Bernreuter Personality Inventory and the subjects were 133 pairs of twins (unlike sex, fraternal, identical, younger, older) and 200 to 345 unselected individuals (norm group of test). The results showed that twins are more extravert, self-confident, sociable, gregarious, and stable than the norm group. There was no difference in dominance or in self-sufficiency, however. There was a tendency for responses of identical pairs to be more similar than fraternal twins, although this did not hold true in all tests, for example sociability and self-sufficiency.—*M. O. Wilson* (Oklahoma).

321. **Gosney, E. S.** *New findings in the study of sterilization in California.* *Eugen. News*, 1935, 20, 73.—In the 26 years California's eugenic sterilization law has been in force, sterilizations per year have increased from 11 to 745, and have attained an average of 465 per year for the last 20 years. A study of 10,000 sterilizations to date is under way. Provisional results of the study of sterilized feeble-minded women now available show: mean age at sterilization was 20, average age now is 27, mean IQ is 61, at least two thirds were sex offenders before commitment, nearly 44% are now or have been married. 60% of those who leave the institution are paroled to relatives, 27% to employers. Three fourths of those studied are working part or full time and three fourths of these are doing work reported as fair or better.—*M. V. Louden* (Pittsburgh).

322. **Huntington, E., & Ragsdale, M.** *After three centuries.* Baltimore: Williams & Wilkins, 1935. Pp. viii + 274. \$2.50.—A detailed analysis of the results of a short questionnaire sent to all persons named Huntington who could be located within the United States, including comparisons of these with the general population and with persons bearing (1) other Puritan names, (2) English non-Puritan names, (3) non-English names. The comparisons are unequivocal in showing that in general these groups maintain the order given in qualities of leadership, productivity, civic responsibility, and freedom from delinquency and inadequacy. Eugenic arguments are drawn from these findings.—*R. R. Willoughby* (Clark).

323. **Kantor, J. R.** *The evolution of mind.* *Psychol. Rev.*, 1935, 42, 455-465.—Darwin's evolutionary theory, despite its faults, has a unique value for the understanding of the origin of the human mind. Mental evolution is a progressive development on three definite but interrelated levels: phylogenetic biological evolution; ontogenetic biological evolution; and psychological evolution. Failure to recognize the role of all three factors leads to erroneous conclusions. What the organism does is a function, in the

mathematical sense, of what it is structurally. But what the organism consists of structurally is a function of its activities in connection with the objects and conditions with which it interacts. The importance of this is brought out for such questions as the nature-nurture controversy and the problem whether the intelligence level is a fixed native thing.—*A. G. Bills* (Chicago).

324. **Lamson, H. D.** *Differential reproduction in China.* *Quart. Rev. Biol.*, 1935, 10, 308-321.—One of the reasons for the favorable and eugenic differential reproduction rates among the upper, educated classes is to be found in innate biological superiority, including greater reproductive power. The upper economic classes also have greater survival rates, and the lower classes may have (although the data are less certain) lower conception rates. Assortative mating has been and still is effective in dividing the social classes. Some vertical mobility of more able individuals into higher social and economic classes occurs. The rich may dissipate their possessions. Many statistical data are summarized and discussed in the review.—*O. W. Richards* (Yale).

325. **Lange, J.** *Psychopathie und Erbpflege.* (Psychopathy and eugenics.) Berlin: Metzner, 1934. Pp. 72. RM. 1.80.—*R. R. Willoughby* (Clark).

326. **Laughlin, H. H.** *The main problems in current eugenical research.* *Eugen. News*, 1935, 20, 76-77.—Since its founding, the science of genetics has substantially followed Galton's original definition: "the study of the agencies under social control that may improve or impair the racial qualities of future generations either physically or mentally." A review of twenty-five years of eugenical research reveals the major advances to be along the following lines: (1) building up substantial archives of the inborn traits; (2) development of a laboratory discipline devoted to the more accurate description and the quantitative measurement of human qualities; (3) studies on the genetics of human qualities; (4) population study; (5) study of those forces which control human migration, mate selection, size of family and longevity in relation to hereditary quality and to racial and family-stock evolution. "As a pure science, eugenics has yielded ample returns in such fields as the measurement, the diagnosis, and the development of definite human qualities, and has found the rules by which Nature governs the inheritance of many inborn traits. . . . Fundamental principles found by the pure science are applied to a specific case so that some practical good may result." Human genetics is entering a second period of development, gathering data in a more quantitative and critical manner than previously and seeking the most accurately obtainable mathematical picture of the manner of inheritance of the specific quality regardless of particular schools of biology.—*M. V. Louden* (Pittsburgh).

327. **Lohmeyer, G.** *The upbringing of twins.* *Int. J. indiv. Psychol.*, 1935, 1, 113-117.—People expect twins to act alike. This interest is felt by twins as hostile and in consequence they tend to draw apart from others. Innate organic differences are vital

bases for "individual" psychological contrasts in twins. A feeling of being under-privileged is assumed as an innate basic characteristic. This, rather than an imitative tendency, it is asserted forms the basis for the usual competitive strivings of twins. This striving is strengthened by the attitudes of others toward the pair. Twins very early become aware of the peculiarity of their birth, of the fact that one was born an hour before the other. They therefore present the universal problem of the sibling order. These and similar asserted psychological factors are afforded support from case reports.—O. N. de Weerd (Beloit).

328. Ludwig, W. *Analogien zwischen Bestimmung des Geschlechtes und Bestimmung der Asymmetrieform (Rechts-Links Problem)*. (Analogies between the determination of sex and the determination of asymmetry—the right-left problem.) *Biol. Zbl.*, 1935, 55, 250-267.—Since there are two categories of sex (M and F) and two of laterality (R and L) the genetic problems are in many ways analogous. Illustrations are given from the inheritance of asymmetry in *Limnaea*. Theoretical chromosomal schemes are presented.—E. R. Hilgard (Stanford).

329. Popenoe, P. *Public opinion on sterilization in California*. *Eugen. News*, 1935, 20, 73.—686 women and 539 men were interviewed as to their views on sterilization. "Even in California, where there is 26 years' experience of eugenic sterilization, only three fourths of the population understand what it means. Of those who understand, 92 per cent definitely approve of it. Most of the objectors or skeptics (17 per cent of the total) are among those who do not know what sterilization is. . . . The highest percentage of approval (89 per cent) was among professional men and women"; the lowest, among skilled and semi-skilled laborers (70 per cent). No difference was found between the percentage of men and women. The author concludes that education of the public as to what sterilization is should be one of the principal measures to promote its use.—M. V. Louden (Pittsburgh).

330. Popenoe, P. *Ten thousand eugenic sterilizations*. *Psychol. Bull.*, 1935, 32, 543.—Abstract.—J. F. Dashiell (North Carolina).

331. Scheidemann, N. V. *Possible genetic relationships among quintuplets*. *J. genet. Psychol.*, 1935, 47, 141-167.—All theories of twin genesis can be grouped into four categories: ovulation and sperm maturation, fertilization, ovum fission, and chromosomal character; with subdivisions under these. The author lists all possible (66) types of spermatozoa and ova that may be the genesis of quintuple offspring, and all possible (206) modes of fertilization of these germ cells.—J. F. Dashiell (North Carolina).

332. Willoughby, R. R. *The amalgamation of ethnic groups*. *Hum. Biol.*, 1935, 7, 437-442.—A statement of the percentage of blood found per generation is used to measure amalgamation in terms of person-equivalents.—O. W. Richards (Yale).

[See also abstracts 71, 431.]

SPECIAL MENTAL CONDITIONS

333. Alexander, F., & Wilson, G. W. *Quantitative dream studies: a methodological attempt at a quantitative evaluation of psychoanalytic material*. *Psychoanal. Quart.*, 1935, 4, 371-407.—A quantitative study was made of the number and the dynamic content of the dreams of 18 patients undergoing psychoanalysis and a correlation was made with the organic symptomatology of the patients. The dreams were classified according to the following ten types: satisfied receptive, inhibited receptive, satisfied taking, inhibited taking, satisfied giving, inhibited giving, satisfied attacking, inhibited attacking, satisfied retaining, and inhibited retaining. The results are summarized as follows: With peptic ulcer, there are intense intaking tendencies, both passive receiving and aggressive taking, marked by much conflict and relatively frequently compensatory giving. In chronic diarrhea, there are intense intaking tendencies with more passive receiving than aggressive taking and much compensatory giving, resembling peptic ulcer patients in their conflict about intaking. The patients with constipation have the strongest retentive tendencies and are characterized by an aggressive eliminating urge with less conflict about aggressive taking than diarrhea or peptic ulcer patients. This method is adaptable for use only in cases competently psychoanalyzed and affords a reliable method for estimating the intensity of dynamic tendencies. 16 tables are given to show the quantitative analysis of the data and 6 tables to illustrate individual cases.—M. H. Erickson (Eloise Hospital).

334. Archer, W. *On dreams*. London: Methuen, 1935. Pp. xvi + 220. 7/6.—The author obtained his data from a ten-year record of his own dreams and the attendant circumstances, such as the people he had met, the books he had been reading, etc. From these accounts he discusses such topics as the moral sense in dreams, the source of dreams, and wish-fulfillments. Freud's generalizations are treated in relation to the author's findings.—A. B. Hunter (Clark).

335. Boldyreff, E. B. *On hyperglycemic effect of tobacco smoking*. *Amer. J. Physiol.*, 1935, 113, 13.—"A series of experiments with administration of the pure alkaloid and nicotinic acid (oxidation product) was carried out in dogs, turtles, and human subjects. It was found that nicotine was without any effect on blood sugar (dogs, dose 4 mgm.). On the other hand nicotinic acid exerted a mild hypoglycemic action (turtles, 10 mgm.; dogs, 5-15 mgm.; man, 1.5 mgm.). In all cases an increase of muscular sensitivity, decrease of body temperature, and slowing of heart beat were noted. The hypoglycemic action of nicotinic acid was most pronounced in turtles. Thus it seems that the increase of blood sugar caused by tobacco smoking should be attributed to other factors than nicotine or its oxidation product."—T. W. Forbes (N. Y. Psychiatric Institute).

336. Briehl, W., & Kulka, E. W. *Lactation in a virgin*. *Psychoanal. Quart.*, 1935, 4, 484-512.—

Anamnestic, analytic and somatic data are presented on a hysterical patient, a virgin, who developed lactation during analysis as a conversion symptom. Physical findings were hysterical stigmata, atypical hirsute distribution, oligomenorrhea, diminished basal metabolism, ovarian hypofunction, functional auditory and visual disturbances. Anamnestic data disclosed strong scotophilic and oral tendencies. Analytically, her breast was equated to nursing her baby, to her mother's breast, to a penis substitute for herself, to her father's penis, and the lactation was equated to milk, urine, and semen.—*M. H. Erickson* (Eloise Hospital).

337. **Davis, R. C., & Kantor, J. R.** Skin resistance during hypnotic states. *J. gen. Psychol.*, 1935, 13, 62-81.—The subjects' resistance when given suggestions to sleep was compared with resistance when given suggestions to perform certain activities while in a hypnotic state, and a difference in resistance was found between the two states. The differences measured on the finger tips were functions of the palmar mechanism. It appears that the physiological condition during hypnosis may vary from a low degree of activity such as is frequently found in sleep to a high degree of activity as found after stimulation in the waking state, the physiological condition depending upon the kind of hypnotic state produced.—*H. Cason* (Wisconsin).

338. **Feer, E.** Zur Psychologie und zur Psychoanalyse des Kindes. (On the psychology and psychoanalysis of children.) In *Festschrift für H. Zangger*. Zurich: Rascher & Cie., 1934.—The author discusses the importance of psychology and psychoanalysis in pediatrics, but points out the dangers of child analysis.—*D. Shakow* (Worcester State Hospital).

339. **Freud, S.** Gesammelte Schriften. (Collected works.) Vol. 12. Vienna: Int. Psychoanalyt. Verl., 1934. RM. 16.00.—*R. R. Willoughby* (Clark).

340. **Frick, H. L., Scantlebury, R. E., & Patterson, T. L.** The control of gastric hunger contractions in man by hypnotic suggestion. *Amer. J. Physiol.*, 1935, 113, 47.—"The experimental evidence presented indicates that in light hypnosis the hunger contractions are inhibited promptly with the suggestion of food, while, on the contrary, the contractions are not as easily elicited with the suggestion of hunger when the stomach is in a state of quiescence. However, similar suggestions in the waking condition seem to influence the gastric hunger movements in no appreciable degree. It is apparent that the depth of the hypnosis determines the success of this procedure. We have also observed that the subject becomes restless when hunger is suggested, which is typical of observations made during hunger in experiments on men and animals. These preliminary studies show that the process normally controlled by the autonomic nervous system may be influenced directly by suggestion. Further evidence obtained is indicative that dreaming during normal sleep inhibits the gastric hunger contractions, the result of which is in conformity with work already published on dogs."—*T. W. Forbes* (N. Y. Psychiatric Institute).

341. **Gadelius, B.** Tro och helbräddagörelse jämte en kritisk studie av psykoanalysen. (Faith and healing in the light of a critical study of psychoanalysis.) Stockholm: Geber, 1935. Pp. 261. Kr. 7.75.—In this book a veteran Swedish psychiatrist offers a detailed critical outlook of the Freudian system as well as of psychoanalysis in general.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

342. **Gantt, W. H.** Effect of alcohol on cortical and subcortical activity measured by the conditioned reflex method. *Johns Hopk. Hosp. Bull.*, 1935, 56, 61-83.—Moderate doses of alcohol increase the latent period of conditioned salivary and motor responses in dogs. Larger amounts decrease the intensity of the conditioned responses and disturb the balance between excitation and inhibition. There is no consistent effect on the unconditioned secretion or on the investigatory reflex. The older, natural conditioned responses to the sight and odor of food are less affected than the artificial laboratory-formed conditioned responses. The results are in agreement with the previous conclusion (Dodge and Benedict) that alcohol never shows any stimulating effect, and that the depressant action is proportional to the dose. They are contradictory, however, to the statement that the lower nervous centers are more affected by alcohol than the higher.—*D. G. Marquis* (Oxford, England).

343. **Graber, G. H.** Primal scene, play and destiny. *Psychoanal. Quart.*, 1935, 4, 467-475.—Material is reported from the successful analysis of a 30-year-old woman to show certain of the relationships that obtain between an early infantile trauma—in this case the primal scene—play and later destiny. In response to the primal scene situation, the patient had become a spoil-sport, compulsively interfering with the play of other children, domineering in every possible situation or secluding herself, developing various psychogenic organic symptoms, and as she grew older, turning her aggression upon herself with the development of severe anxieties but continuing in the role of a disturber and destroyer of all companionship and affection. Recovery followed analysis.—*M. H. Erickson* (Eloise Hospital).

344. **Jones, E.** Early female sexuality. *Int. J. Psycho-Anal.*, 1935, 16, 263-273.—The author discusses the concepts of early female sexuality advanced by various psychoanalysts, correlating and coordinating particularly the apparently divergent views of London and Vienna analysts. He feels that the significant difference between these two schools is the greater emphasis placed by London analysts upon psychic reality.—*M. H. Erickson* (Eloise Hospital).

345. **Koenig-Fachsenfeld, O. F. v.** Wandlungen des Traumproblems von der Romantik bis zur Gegenwart. (Changes in the dream problem from the romantic period to the present.) Stuttgart: Enke, 1935. Pp. 138. RM. 6.00.—*R. R. Willoughby* (Clark).

346. **Künkel, F.** Die Lehrbarkeit der tiefenpsychologischen Denkweisen. (The teachability of the methods of thought of depth psychology.) *Zbl.*

Psychother., 1935, 8, 235-248.—Künkel elaborates the similarity and mutual relationships of politics, religion and depth psychology, and the qualifications for the experience and teaching of the last. They are all "operative procedures" on the personality, combining objective science and subjective technique, and attainable only within definite sociological and racial limitations; and religion, at least, comes only as a divine gift. A course in depth psychology arouses the same reactions as treatment. The student's limitations are his age, the nature of his maturing, and his racial unconscious. Depth psychology cannot be experienced until the ego is well established, i.e. toward the end of adolescence, but the medical-school years are an unfavorable time for this teaching because the student is still too immature to feel the inner need. An inherited family cultural background is also necessary; but most important is racial fitness. As the experiences of depth psychology presumably differ in different races, the prerequisite for a depth-psychological experience between teacher and student is identity of racial collective unconscious.—*M. E. Morse* (Baltimore).

347. **Laird, D. A. Sleep.** In *Cyclopedia of Medicine* (Piersol). Philadelphia: F. A. Davis Co., 1935. Pp. 307-314.—Sleep is defined as a recurrent necessary state of wide occurrence, characterized by profound diminution of mental and physiological activities and marked by a spontaneous loss of consciousness. Causes of sleep, characteristic features, and the more common disorders of sleep are briefly discussed. The effects of sleep loss and the amount of sleep required are then summarized. Under the quality of sleep the author discusses the effects of various disturbances upon the quality and hence the restfulness of sleep.—*M. H. Erickson* (Eloise Hospital).

348. **Lindner, T. Är psykoanalysen en mod-
edärskap?** (Is psychoanalysis fashionable nonsense?) *Soc.-med. Tidskr.*, 1935, 12, 133-138.—A very sharp criticism of psychoanalysis, psychoanalysts, and psychoanalytical methods, with special reference also to prevailing conditions in Sweden.—*M. L. Reymert* (Mooseheart Laboratory of Child Research).

349. **Loewenstein, R. Phallic passivity in men.** *Int. J. Psycho-Anal.*, 1935, 16, 334-340.—Two forms of genital functioning are distinguished: (1) an active form terminating in penetration and coitus, and (2) a passive form in which the man's wish is to receive caresses from without either from someone else or from his own hand. These two aspects reflect two phases of genital development in childhood, namely, the active and the passive phallic stages. Persistence of the passive stage results in habitual masturbation in preference to actual coitus. Material is cited from case histories to illustrate the relationship between passivity and ejaculatory disturbances. The castration complex also is conducive to the inhibition of active genital functioning and to the development of sexual passivity. Fixation at the passive stage may predispose to a certain type of homosexuality.—*M. H. Erickson* (Eloise Hospital).

350. **Menninger, K. A. A psychoanalytic study of the significance of self-mutilations.** *Psychoanal.*

Quart., 1935, 4, 408-466.—The author discusses the general problem of self-mutilation and then elaborates upon the manifestations of this practice in neurotic conditions, for religious purposes, as puberty rites, in psychotic behavior, as occurring in organic diseases, and in the customary and conventional forms occurring in normal people. He summarizes with the statements that self-mutilation occurs under widely varying circumstances and conditions; that it represents a surrender or a repudiation of the active role by the removal or injury of part of the body; and that it often represents directly a castration performed to satisfy erotic and aggressive cravings and at the same time to gratify a need for self-punishment. The aggressive element in self-mutilation may be both active and passive. Erotic gratification may be primary by surrender of an active role for a passive one and secondary by an erotization of the destructive act. Finally, self-punishment is implicit in the act. The underlying causation of self-mutilation is the conflict between (1) the aggressive destructive impulses aided by the super-ego, and (2) the will to live.—*M. H. Erickson* (Eloise Hospital).

351. **Oberndorf, C. P. The genesis of the feeling of unreality.** *Int. J. Psycho-Anal.*, 1935, 16, 296-306.—Erotization of abstract thinking leads to depersonalization and a sense of unreality. A narcissistic wound to the ego and the super-ego constitutes the preliminary trauma. The sequence of events in the typical case of unreality after the original trauma is identification with the parent of the opposite sex at the Oedipus level, emphasis on thinking as masculine, the psychic equation of head and phallus, indulgence in thinking as a pleasurable sexually stimulating activity, and the development of a state of unreality when attempts are made to think and act in a manner regarded as normal. A case report is given with material to illustrate each of these sequences. General conclusions drawn from this and other studies concerning unreality are: that unreality serves to keep neuroses alive by preventing acceptance by what remains of the patient's integrated personality of the interpretations offered by the analyst; that social embarrassment is due to conflict concerning which portion of the super-ego (masculine or feminine) should direct the actions of the ego; and that the apparent replacement of former gross hysterical conversion states by the compulsive psychoneuroses of today may be the result of the present greater libidinalization of thinking.—*M. H. Erickson* (Eloise Hospital).

352. **Psychologischen Club Zürich. Die kulturelle Bedeutung der komplexen Psychologie.** (Festschrift zum 60. Geburtstag von Carl Gustav Jung.) (The cultural meaning of the psychology of complexes. Festschrift in honor of Carl Gustav Jung, on his 60th birthday.) Berlin: Springer, 1935. Pp. 625. RM. 19.50.—*R. R. Willoughby* (Clark).

353. **Saul, L. J. A note on the psychogenesis of organic symptoms.** *Psychoanal. Quart.*, 1935, 4, 476-483.—Psychoanalytic findings on a male patient are reported to illustrate the observations made previously "that psychogenic organic symptoms,

although related to emotional conflicts, need not be primarily symbolizations of these, but only incidental results of appropriate and readily comprehensible emotional expressions." An example of the patient's organic symptoms was the development of a sore throat during sleep from oral breathing while dreaming of being fed.—*M. H. Erickson* (Eloise Hospital).

354. **Schilder, P.** *Psycho-analysis of space.* *Int. J. Psycho-Anal.*, 1935, 16, 274-295.—Insufficient attention is given to space outside the body and that filled by the body, both of which are essential for the development of narcissistic tendencies. Interwoven with space are time and movement. Size, weight, distance, dimensions, speed, impact, and motion are immediate expressions of the total libidinous situation. Space perception depends upon the libidinous structure, is modified by id-functions which are dependent upon the biological situation, and is influenced particularly by the oculomotor and the vestibular apparatus. At first undifferentiated relations exist between body space and external space, with later clearer differentiation around body openings. The original zone of indifference between the body and the outside world may cause distortions by projection and appersonization corrected by a continuous process of testing by action. Generally space develops around erogenous zones in close connection with drives, at first not unified but becoming unified under the influence of genitality. Space distortions at the genital level signify either genitals or persons as units. The final appreciation of space is dependent upon appreciation of personalities and hence is a social phenomenon. These ideas are elaborated with detailed psychoanalytic case material.—*M. H. Erickson* (Eloise Hospital).

355. **Schmideberg, M.** *Reassurance as a means of analytic technique.* *Int. J. Psycho-Anal.*, 1935, 16, 307-324.—Reassurance cannot be excluded wholly from psychoanalytic technique. Usually regarded merely as a means of soothing anxiety, its real service lies in assisting the ego to prevent the acting out in reality of dangerous tendencies such as suicide or psychotic flights. Reassurance is best avoided by interpretation, but it is sometimes essential as a preliminary to the acceptance of interpretation. Usually it is best given with interpretation of anxiety to be reassured and an interpretation of the effects of the reassurance and of the patient's feelings about the analyst giving reassurance. The author then cites personal experiences and describes in some detail her methods of reassurance with children and adults. The most serious argument against reassurance is that it may increase repression, but properly used this need not occur. Another argument against it is the practical difficulty engendered with difficult patients. The author concludes with the statement that psychoanalytic technique need not be rigid, but should be adaptable to the patient and the analyst.—*M. H. Erickson* (Eloise Hospital).

356. **Stuart, C. E.** *A reply to Willoughby.* *Character & Pers.*, 1935, 4, 80.—The author substantiates the method of computing p. e. in clairvoyance data

used by J. B. Rhine (see IX: 1801) and criticized by R. R. Willoughby (see X: 358).—*M. O. Wilson* (Oklahoma).

357. **Sumbaev, —.** [The action of pharmacological substances on hypnotic sleep.] *Sovetsk. Nevropat.*, 1935, No. 7, 83-94.—Narcohypnosis differs from the usual hypnotic state only by a difference between profound sleep and the other symptoms of hypnosis. Chemical substances add their pharmacological action to the hypnosis, but do not change the degree of suggestibility of the subject.—*A. Yarmolenko* (Leningrad).

358. **Willoughby, R. R.** *The use of the probable error in evaluating clairvoyance.* *Character & Pers.*, 1935, 4, 79-80.—Willoughby criticizes the method of computing the p. e. in clairvoyance data used by J. B. Rhine (see IX: 1801). For reply to this criticism see the note by C. E. Stuart (X: 356).—*M. O. Wilson* (Oklahoma).

359. **Wolff, H. G., & Gantt, W. H.** *Caffeine sodiobenzoate, sodium iso-amylethyl barbiturate, sodium bromide and chloral hydrate: effect on the highest integrative functions.* *Arch. Neurol. Psychiat.*, Chicago, 1935, 33, 1030-1057.—The action of certain drugs was studied in terms of the effect upon conditioned salivary reactions in dogs. The threshold of the conditioned reactions was lowered by caffeine sodiobenzoate; it was raised by small or moderate doses of the other three drugs. In larger doses the effect of sodium iso-amylethyl barbiturate may be divided into four periods: (1) a brief phase during which conditioned responses are increased, (2) the longer phase of narcosis, (3) the phase of recovery from narcosis, and (4) (less constant) the postnarcotic phase during which the conditioned responses are again greater than the average. Evidence is presented to show that chemical substances which alter the threshold of the highest integrative functions are not essentially different in their effect from other threshold-altering processes such as reinforcement, differentiation, etc.—*D. G. Marquis* (Oxford, England).

360. **Yates, S.** *Some aspects of time difficulties and their relation to music.* *Int. J. Psycho-Anal.*, 1935, 16, 341-355.—The role of a sense of time and the differing significances that time possesses in the various stages of life and in various situations is discussed, followed by the report of a year's analytic findings upon a musician whose sublimation of time difficulties in the practice and teaching of music had broken down. The following tentative conclusions are offered: "(1) That all that is most fundamental to a person's appreciation of time and rhythm originates in a pattern laid down at the breast period, when the body supplies the rhythm. (2) That where there is gross disharmony between the child's and mother's time, a degree of aggression is aroused which influences all subsequent time relationships, first excretory, then genital and then passing on to the relationship of work and pleasure and to sublimations as a whole. (3) That it is essential for achievement in any sublimation involving creative activity for a certain tension of repetition and climax to be reached,

that this can only be borne when the restitutional element, the purposive and rhythmic repetition, dominates the uncontrolled crisis first seen in the crying of infancy."—*M. H. Erickson* (Eloise Hospital).

361. Zulliger, H., & others. *Ueber Hochstapler und Verwahrloste*. (Swindlers and neglected children.) *Z. psychoanal. Pädag.*, 1935, 9, 149-214.—This is a symposium on narcissistic motivation, arranged by the Swiss Society for Psychoanalysis. Zulliger observes that individuals with narcissistic motivation are usually normal in mental and physical make-up except for a so pronounced autistic, ego-centric and egotistic attitude that no room remains for other attachments. Usually there is a tendency to swindling in a compulsive attempt at being outstanding in some respect. Educational difficulties are caused by lack of ability for affectively founded identification and for transference of libido. The super-ego consists of an idealized drive-ego. All of the author's cases were children. He suggests that giving patients the choice between relinquishing their narcissism or perishing (as the British sent their criminals as settlers to Australia) may be the only possible cure. H. Meng suspects a strong libidinous disappointment in early childhood as the traumatic basis and extreme early fright as leading to sadistic tendencies. G. Bally points out that we can do little for the patient who lacks social responsibility. The symposium closes with three reprints and a bibliography of German publications on neglect and criminal psychology.—*H. Beaumont* (Kentucky).

[See also abstracts 8, 90, 237, 245, 309, 469, 472, 510, 657, 661, 662, 685.]

NERVOUS AND MENTAL DISORDERS

362. Abély, X. *Internement des aliénés criminels: juridiction répressive ou juridiction civile?* (Internment of the criminally insane: criminal jurisdiction or civil jurisdiction?) *Ann. méd.-psychol.*, 1935, 93, Part 1, 234-253.—The new penal law in France proposes to have the criminally insane committed to special asylum-prisons by the criminal court judges. The author objects strenuously on the grounds that the same judges are not always present for the whole criminal case, the criminal court is not always in session, it attaches stigma to the family, and it goes beyond its bounds to convict a person who is irresponsible and therefore not guilty. On the other hand, the civil judges have had more experience in this work and are in closer contact with the mental hospitals. He suggests that one man, the president of the tribunal or a special judge appointed by him, have charge of all such commitments. The latter can follow the case through and be in a position to know when the patient is in a condition to be released.—*M. B. Mitchell* (New Hampshire State Hospital).

363. Abramson, J. L. *Pyknolepsy*. *J. nerv. ment. Dis.*, 1935, 82, 249-261.—A review of the literature is given with the conclusion that this type of seizure has a good prognosis and disappears at puberty, never to return. Several cases are presented. The

author concludes that it is probable that we are not dealing with a disease entity or a specific etiology, but with a type of reaction of the nervous system, and that one can speak only of a "pyknoleptic type" of seizures, regardless of the etiology. Bibliography.—*C. R. Atwell* (Boston Psychopathic Hospital).

364. Achille-Delmas, F. *Psychose périodique et démence précoce*. (Periodic psychosis and dementia praecox.) *Ann. méd.-psychol.*, 1934, 92, Part 2, 570-580.—Occasionally a case of dementia praecox will occur in a family with a history dotted with many manic-depressive psychoses. A study of the family histories of some 668 patients at Maison de Santé d'Ivry showed that the ratio of dementia praecox to manic-depressive psychosis in these families was about 7 to 1000. On the other hand, manic-depressive psychosis occurred about 2 to 6 times per 100 dementia praecox among the relatives of the dementia praecox patients. The incidence of both types in the same family is too infrequent to justify the conclusion drawn by Tinel that the two psychoses have a common origin. In the few cases first diagnosed as manic-depressive and later as dementia praecox, there was usually a period of confusion probably due to an encephalitis before the dementia.—*M. B. Mitchell* (New Hampshire State Hospital).

365. Allen, I. M. *Observations on the motor phenomena of hysteria*. *J. Neurol. Psychopath.*, 1935, 16, 1-25.—A summary of the results in 59 patients of a study of paralysis, tendon jerks, and skin reflexes by clinical methods.—*D. G. Marquis* (Oxford, England).

366. Ashby, W. R., & Glynn, A. *The chemistry of the brain in the mental defective*. *J. Neurol. Psychopath.*, 1935, 15, 193-209.—Chemical analysis of the gray matter of the frontal lobe was carried out on 9 normal adult brains and 62 brains of mental defectives of varying mental ages. Correction was made for time of fixation of the brains in formalin. No relationship was found between mental age and myelin content or lipid content (cholesterol, cerebrosides, phosphatides). However, the water content and the protein-phosphorus showed significant negative correlations with mental age. These findings indicate that as one goes from 0 to 14 years of mental age the total amount of nuclear substance in the cortex remains about the same, while the amount of cytoplasmic substance increases. This could be due either to the fact that the nerve cells of the defective's cortex are immature in form or that there is an excess of neuroglia present.—*D. G. Marquis* (Oxford, England).

367. Ashby, W. R., & Stewart, R. M. *The brain of the mental defective: Part 3. The width of the convolutions in the normal and defective person*. *J. Neurol. Psychopath.*, 1935, 16, 26-35.—Using a standardized and reliable method for estimating the degree of convolutional complexity of the brain, the authors found no difference between the mean values of normal and defective persons. The variability in the defective group appeared to be greater.—*D. G. Marquis* (Oxford, England).

368. Berenstein, J. V. [Epilepsia simplex—the structure and evolution of the so-called “epileptic character.”] *Sovetsk. Psikhonevrol.*, 1935, No. 3, 30-36.—Cases of epilepsy are described in which there are no crises, but only mental alterations of an epileptic nature. The author isolates this form of epilepsy as “epilepsia simplex,” analogous to schizophrenia. The dynamics of the epileptic character can be described as: (1) accumulation of qualitative changes of affect, in the direction of dullness; (2) gradual intellectual impoverishment; (3) stratification of functional traits observed externally, and (4) the action of arteriosclerotic changes. The predominance of one or more of the described actions defines the sub-type “epileptic character.”—A. Yarmolenko (Leningrad).
369. Berry, R. J. A. Some of the structural abnormalities presented by the brains of thirty-one certified mental defectives. *J. Neurol. Psychopath.*, 1935, 16, 54-69.—Statistical treatment of various measurements of defectives' brains (for which a comparable series of normal brains was not available) suggests that the brains are smaller than normal and have undeveloped parietal lobes.—D. G. Marquis (Oxford, England).
370. Berze, J. Vom Schizoid. (The schizoid.) *Z. ges. Neurol. Psychiat.*, 1935, 153, 600-621.—This article is intended by the writer to supplement, further clarify and correct his earlier writings on schizophrenia and the schizoid. “Schizoid” and “candidate for schizophrenia” are not synonymous, and the difference between them is not one of degree. The biological basis of the schizoid is of a constitutional and characterological nature, that of schizophrenia is a matter of pathological process. The meanings of such categories as isolation, incoordination and puerilism are re-examined.—C. W. Fox (Rochester).
371. Björck, P. Tandinfektion och sinnessjukdom. (Tooth infection and insanity.) *Soc.-med. Tidskr.*, 1935, 12, 139-141.—While tooth infections and dental decay seem to be as prevalent in the general population as among inmates of hospitals for mental diseases, it is stressed that good dental care for insane patients is essential both from the point of view of heightening their general physical condition and from that of giving the patient the impression that “something is being done for him.” Dental care in Swedish hospitals for mentally diseased is discussed.—M. L. Reymert (Mooseheart Laboratory for Child Research).
372. Brander, T. Om exogenesens betydelse för uppkomsten av sinnesslöhet, belyst genom undersökningar av tvillingar. (On the importance of exogenesis for the origin of feeble-mindedness, as inferred from investigations of twins.) *Finska LäkSällsk. Handl.*, 1935, 77, 399-417.—After a general up-to-date critical summary of works on the problem, the writer offers results from his own investigation of ten pairs of twins. Extensive bibliography. (It is announced that the article will soon appear in German under the title *Über die Bedeutung der Exogenese in der Oligofrenie-Ätiologie, beleuchtet* durch Untersuchungen an Zwillingen, with publication place and date not designated.)—M. L. Reymert (Mooseheart Laboratory for Child Research).
373. Braun, F., & Plüer, H. Das geistesschwache Kind. 1, 2. (The feeble-minded child. 1, 2.) *Unsere Sorgenkind.*, 1934, No. 2. Pp. 77.—R. R. Willoughby (Clark).
374. Brill, M. A. A comparative study of the performance of adjusted and maladjusted mentally deficient boys on twenty-two tests and scales. New York: N. Y. Univ. Sch. Educ., 1935. Pp. 4.—(Abstract of Ph.D. thesis.) 50 adjusted mentally deficient (A.M.D.) boys and 50 maladjusted mentally deficient (M.M.D.) boys were matched for nationality and race, chronological age, Binet test age, length of residence in the institution, and general health. The A.M.D. tend to function in testing situations on a higher level than is expected by reason of their Binet level. The M.M.D. scores were more variable than those of the A.M.D. group. The Vineland adjustment score card and the abbreviated Goodenough draw-a-man scale conclusively differentiated between the two groups. Scores in themselves are inadequate for diagnosis; the more difficult a test is the less it differentiates the two groups; those tests on which the M.M.D. functioned higher were primarily measures of memory. There is a marked probability that the M.M.D. group will give more individual responses to, and have longer reaction times on, the Kent-Rosanoff free association test, have a large scatter on the Binet, and score higher in the Porteus maze test and in memory for designs. It is felt that a battery of tests could be developed that would reliably differentiate the maladjusted individuals.—R. Goldman (Clark).
375. Brown, F. The crisis in clinical psychology. *Psychol. Exch.*, 1935, 4, 18-20.—Better training in more than psychometrics is needed.—J. F. Dashiell (North Carolina).
376. Burkhardt, H. Endogene Psychosen bei nordischer Rasse. (Endogenous psychoses in the Nordic race.) *Z. ges. Neurol. Psychiat.*, 1935, 153, 165-181.—A group of 59 mentally deranged individuals was selected by the following criteria: each must be of Schleswig-Holstein descent; and each must manifest certain anthropometric characteristics (not overlapping with Kretschmer's familiar measurements). Pure schizophrenias were represented predominantly, and almost exclusively, in this group. Manic-depressive and markedly atypical psychoses, including reactive lability, were entirely lacking. The most characteristic feature was, throughout, an autism with hebephrenic coloring. Nothing appeared that could be considered a distinctly extraverted trait.—C. W. Fox (Rochester).
377. Caron, M., & Sivadon, P. Interréaction psychopathique chez deux soeurs schizophrènes. (Psychopathic interaction in two schizophrenic sisters.) *Ann. méd.-psychol.*, 1935, 92, Part 2, 812-816.—Two schizophrenic sisters were intermittently hospitalized. Sometimes they went together, but one went more frequently than the other. They had

a common dislike for their parents and attachment to each other. Aline had had several other strong homosexual attachments since adolescence. She completely dominated her sister at times. Claire was quite catatonic, but Aline attributed this symptom to herself and said it was voluntary.—*M. B. Mitchell* (New Hampshire State Hospital).

378. **Christoffel, H.** *Zur Biologie der Enuresis.* (The biology of enuresis.) *Z. psychoanal. Pädag.*, 1934, 8, 270-273.—Abstract of a study published in *Zeitschrift für Kinderpsychiatrie*. (See IX: 4395, 5381, 5382.)—*H. Beaumont* (Kentucky).

379. **Corberi, G.** *L'importanza dell' assistenza eterofamigliare.* (The importance of hetero-familial assistance.) *J. belge Neurol. Psychiat.*, 1935, 35, 361-372.—A report on the practice undertaken in Italy of placing mental patients with families. This procedure has been in use since 1900 and has two objects: (1) to empty the institutions of chronic patients who are a state charge; and (2) to find families for the placement of cases who can perform a certain amount of useful work, thereby reducing the cost of maintenance. This form of assistance has proved very effective and is in use in various provinces.—*H. Sys* (Cornell).

380. **Credner, L.** *Phobia as an expedient.* *Int. J. indiv. Psychol.*, 1935, 1, 34-39.—Obsessive fears are characteristic and symptomatic of the physical and psychic structure of a particular person, and are by their very nature the choice of the individual. The phobia is a substitute function which is adapted to the unconscious and desired life goal of the patient. Two cases are presented and treatment discussed. One is that of a woman with a death phobia; the other, a woman, is a case of agoraphobia.—*O. N. de Weerd* (Beloit).

381. **Dembo, T., & Hanfmann, E.** *The patient's psychological situation upon admission to a mental hospital.* *Amer. J. Psychol.*, 1935, 47, 381-408.—The attitudes of 100 consecutive admissions to a State Hospital were studied systematically. The patient's attitude toward the whole hospital situation was classified into one of six groups: (1) a primitive drive to get out of the hospital, (2) a drive to get out, but with insight into the need for hospitalization, (3) refusal to accept the reality of the hospital situation, (4) preoccupation with the psychosis, sometimes with and sometimes without insight, (5) hospitalization reacted to as a refuge, and (6) hospitalization reacted to only in its concrete and specific aspects. These six tendencies are analyzed theoretically in terms of Lewin's topologic and dynamic psychology, and their practical implications in the handling of patients are considered.—*D. E. Johannsen* (Skidmore).

382. **Derombier, M.** *L'illusion de sosie, forme particulière de la méconnaissance systématique.* (The Sosia delusion, a particular form of systematic lack of recognition.) *Coustant: Cahors*, 1935. Pp. 116.—This delusion is as follows: on several occasions the patient is placed in the presence of the same person (usually a near relative). Each time he perceives a close resemblance between the various appearances

of this one person, but he believes he has seen one or more counterparts of the same person and denies their identity. The author points out that this delusion is not compatible with extreme dementia.—*M. H. Piéron* (Sorbonne).

383. **Desruelles, M., Massot, J. L., & Gardien, P.** *Choc émotif et guérisons de psychoses.* (Emotional shock and recovery from psychoses.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 385-393.—During the last century an emotional shock with or without a physical concomitant was frequently considered as the cause or cure of a psychosis. In more recent years this theory has not been held in such good repute. Four rather recent cases are summarized in which the patients made a rapid recovery after violent emotional shocks. These shocks were varied: news of the death of a husband, the purposeful drowning of a child, an artificially induced elevated temperature, and the cry of a baby misidentified as that of the patient's own child. The shocks may have been only coincidental to the cures, or may have come at a time when the patient was most receptive. Emotional shocks tend to produce an aggravated condition more frequently than a cure. Bibliography.—*M. B. Mitchell* (New Hampshire State Hospital).

384. **Fauville, A.** *Un cas de dépression psychique chez un écolier.* (A case of psychic depression in a schoolboy.) *Rev. belge Pédag.*, 1935, 16, 603-608.—The author describes a case of psychic depression in a 12-year-old schoolboy whose behavior previously had in no way been abnormal. This depression was indicated primarily by a repugnance to speak. The Binet-Terman IQ was 79, but the Pintner-Paterson mental age was 13 years. On gaining the confidence of the boy, Fauville found that the depression dated from a certain day when the boy had been the object of brutal treatment by his schoolmates. Thanks to the proper treatment, his intellectual and social development progressed rapidly, but he remained very emotional in regard to his past.—*R. Nihard* (Liège).

385. **Flairy, J.** *Hallucinations et visions.* (Hallucinations and visions.) *Rev. Phil., Paris*, 1934, 34, Part 4, No. 3, 137-156.—This work is a comparative study of various hallucinations: on one side Flairy places the psycho-sensory hallucinations and the psychological hallucinations; and on the other side are certain aspects of the mystic life, such as imaginary speech and visions. There is no bibliography.—*M. H. Piéron* (Sorbonne).

386. **Fleming, R., & Stotz, E.** *Experimental studies in alcoholism. I. The alcohol content of the blood and cerebrospinal fluid following oral administration in chronic alcoholism and the psychoses.* *Arch. Neurol. Psychiat., Chicago*, 1935, 33, 492-506.—Curves for the concentration of alcohol in the blood and cerebrospinal fluid for a period of three hours after oral administration of 3.0 cc. of 20% alcohol per kilogram of body weight were constructed in 58 experiments on 52 subjects. In heavy drinkers, as contrasted with abstainers, the alcohol of the blood and cerebrospinal fluid rises more rapidly, reaches a higher maximum and falls more quickly. The values

for moderate drinkers occupy an intermediate position. No correlation could be established between the clinical picture and the type of alcohol curve.—*D. G. Marquis* (Oxford, England).

387. **Forel, O. L.** *L'hygiène mentale et la presse.* (Mental hygiene and the press.) *J. belge Neurol. Psychiat.*, 1935, **35**, 398-408.—The question is raised to what extent the press hinders mental hygiene and to what extent the present situation can be remedied. The author reviews the different fields in which the press exerts an influence and weighs the detrimental as well as the beneficial effects on the minds of the people. He suggests cooperation between the press and mental hygiene, and for this purpose asks that the press be financially independent, that it refrain from printing sensational news, and that it eliminate all harmful publicity. The press should recognize its mission to serve human civilization and to fight against physical and mental disturbances.—*H. Sys* (Cornell).

388. **Fünfgeld, E.** *Klinisch-anatomische Untersuchungen über die depressiven Psychosen des Rückbildungsalters.* (Clinico-anatomical studies on depressive psychoses of the involution period.) *J. Psychol. Neurol., Lpz.*, 1935, **45**, 1-68.—*R. R. Willoughby* (Clark).

389. **Gislin, S. G.** [Concerning hallucinosis.] *Sovetsk. Nevropatol.*, 1935, No. 7, 31-46.—*A. Yarmolenko* (Leningrad).

390. **Golman, S. V.** [Illusory motor concepts in peripheral paralysis of the facial nerve.] *Sovetsk. Nevropatol.*, 1935, **4**, No. 5, 201-205.—Anagnostic conceptions in patients with peripheral paralysis of the facial nerve can be explained by the isolation of cortical activity. The so-called motor sphere can be separated from the corresponding psychical activity (conception of motion) in a healthy man only in abstraction, and both spheres constitute a functional unit.—*A. Yarmolenko* (Leningrad).

391. **Göring, M. H.** *Erfolgsmöglichkeiten der Psychotherapie.* (Possibilities of success in psychotherapy.) *Zbl. Psychother.*, 1935, **8**, 219-227.—Göring analyzes statistically 424 cases treated by him with depth psychology from 1930 to 1933. He divides them primarily according to the presence or absence of a psychopathic constitution, and advises discontinuing treatment of the psychopathic cases. Aryans respond better than Jews. The treatment of children is the most important field, and the results are better than in the case of adults. The most important thing is to inculcate the peculiarly Aryan-Nordic social feeling for folk and state according to the teachings of the Leader. The article contains tables and graphs.—*M. E. Morse* (Baltimore).

392. **Gottlieb, J. S., & Linder, F. E.** *Body temperatures of persons with schizophrenia and of normal subjects.* *Arch. Neurol. Psychiat., Chicago*, 1935, **33**, 775-785.—Schizophrenic patients show significant deviations from the normal maintenance of body temperature in constant and varied environmental temperatures. "Their homothermic stability seems to have been replaced by a lower phylogenetic type

of adjustment mechanism, resembling poikilothermism."—*D. G. Marquis* (Oxford, England).

393. **Gregory, M. S.** *Psychiatry in general practice, with special reference to therapy.* *J. Amer. med. Ass.*, 1935, **105**, 175-181.—General considerations concerning the affective, schizophrenic, organic and toxic psychoses. The author makes a plea for the use of the simple psychotherapeutic principles in general medical practice, emphasizing the point that "the mental attitude of a person, including his emotional reaction, is capable of acting directly on the body functions or even on the tissues in such a manner as to cause pathologic changes, or at least to contribute to the development of disease processes."—*D. J. Ingle* (Mayo Foundation).

394. **Hackfield, A. W.** *The ameliorative effects of therapeutic castration in habitual sex offenders.* *J. nerv. ment. Dis.*, 1935, **82**, 169-181.—"On the basis of follow-up studies of 40 castrated patients, it could be ascertained that in 25 non-psychotic male sex offenders who repeatedly lapsed into abnormal practices and in whom no other forms of treatment were successful, the operation was productive of an immediate and lasting cure in 22 cases, a somewhat retarded one in three cases, without the appearance of any marked physical or mental sequelae. In the case of nine female and male psychotics the operation remained without effect upon either their psychic aberration or sex anomaly. Of the remaining six women upon whom the operation was performed because of sexual promiscuity or states of emotional excitement accompanying the menstrual period, it was without effect." Bibliography.—*C. R. Atwell* (Boston Psychopathic Hospital).

395. **Hedenberg, S.** *Schizophrenien och de nyare histopatologiska rönen.* (Schizophrenia and recent histopathological experiments.) *Svenska Läkartidn.*, 1935, **36**, 1249-1257.—Brief exposition of certain recent histopathological research in relation to schizophrenia, setting forth also problems for future research such as: What are the distinguishing features between schizophrenia originating at an early age and that appearing for the first time at a more mature age (40-50 years) in an individual?—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

396. **Hermann, K.** *Delirium acutum.* (Acute delirium.) *Hospitalstidende*, 1935, **78**, 994-999.—The syndrome delirium acutum is described, with an account of cases during the last 20 years at the Hospital for the Mentally Diseased at Nykøbing, Denmark. Among 4700 patients, 11 cases (2 male and 9 female) occurred. While delirium acutum may occur in such different psychoses as schizophrenia, dementia paralytica, manic-depressive psychosis, encephalitis, agitated melancholia, and chronic alcoholism, out of the present 11 cases 5 appeared in relation to manic-depressive psychosis. In 8 out of 10 cases ending in death, autopsies were performed, with the result that definite somatic results were obtained in 3 cases only. Case histories of 2 middle-aged women patients are appended.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

397. Hockett, J. A. Reading interests of Z-section children. *Elem. Sch. J.*, 1935, 36, 26-34.—100 books were selected on the basis of frequency of mention and of selection as first or second choice by some 500 retarded children in grades 4-6 who reported lists of books read recently. These 100 titles were submitted to 400 Z-section pupils in the same grades, who checked the books they had read and indicated the three that they liked best. The number of checks and preferential selections for each book were tabulated according to the reading ages of the pupils. On this basis the 64 books most widely read and best liked were selected and arranged in rank order of difficulty. Titles of these books and their rankings are given.—P. A. Witty (Northwestern).
398. Hunt, J. McV. Psychological loss in paretics and schizophrenics. *Amer. J. Psychol.*, 1935, 47, 458-463.—18 paretics and 25 schizophrenics were presented with arithmetic progressions and instructed to continue the series for two or three steps. They were then required to read a narrative containing absurdities and to tell how they would change it. A clear difference in the performance of schizophrenics and paretics is evident. The former solved the numerical problems far better than the latter, but they seldom noted an absurdity before being specifically told to look for it. The theoretical implications of this difference are briefly considered.—D. E. Johannsen (Skidmore).
399. Huston, P. E. The reflex time of the patellar tendon reflex in normal and schizophrenic subjects. *J. gen. Psychol.*, 1935, 13, 3-41.—The action current method was used in studying the latency of the patellar tendon reflex in 66 adult male schizophrenics and 53 normal adult males. No significant differences were found between the reflex time of the normal and schizophrenic groups, and there were no significant differences in the correlation between reflex time and height, or between reflex time and thigh length. The results did not support the theory that the latency of the patellar reflex expresses an altered relationship between higher and lower neural centers in schizophrenic and normal subjects.—H. Cason (Wisconsin).
400. James, G. W. B. Prognosis of puerperal insanity. *Lancet*, 1935, 228, 1515-1516.—There is no insanity which is peculiar to the childbearing woman. Pregnancy, labor, and the puerperium are regarded as associated causes of mental breakdown in certain women unable to withstand normal physiological stress. The mental symptoms during the childbearing period may be due to the occurrence of well-known mental diseases such as the manic-depressive psychosis and the schizophrenic disorders. A smaller group is made up of the neurotics and psychoneurotics and a number who exhibit mental symptoms in association with some bodily disorder, such as puerperal sepsis. Prognosis depends on the type of disorder. Of 100 women exhibiting mental symptoms during the puerperium about 20% remained chronic mental invalids, 8% died, and about 70% recovered from the immediate illness, but an indefinite number of this latter group faced recurrence.—D. J. Ingle (Mayo Foundation).
401. Jassinsky, V. P. [Disorders of consciousness in epileptoid and epileptic patients.] *Sovetsk. Psikhonevrol.*, 1935, No. 3, 37-46.—Disorders of consciousness of the dream-like type with short duration occur in epileptics, but they can also be observed in other diseases. The appearance of "crepuscular" dream-like states after or during sleep is an indication of the relation existing between the mechanisms underlying both these states.—A. Yarmolenko (Leningrad).
402. Jolowicz, E. *Praktische Psychotherapie*. (Practical psychotherapy.) Zurich, Leipzig: Niehans, 1935. Pp. 242. 6 Schw. fr.—Stressing practice rather than theory, the author argues for the increased application of psychotherapeutic principles in medical practice and an absorption in the spirit of psychotherapy rather than the study of any one method. The general portion of the book deals with the physician-patient relation and the psychotherapeutic goal; the specialized portion treats personality analysis, hypnosis and suggestion, transference, resistance, free association and interpretation, dream analysis, and related topics.—E. Golowicz (Paris).
403. Jongbloed, J. *Experimentelle Katatonie durch Unterdruck*. (Experimental catatonia caused by low pressure.) *Arch. néerl. Physiol.*, 1934, 19, 538-553.—Cats, rabbits, rats, and mice, when exposed to low pressure (150 mm.Hg) and also immediately after quick decompression, show the group of symptoms (experimental catalepsy) associated with bulbocapnine poisoning. The parallelism of symptoms due to increasing dosage of bulbocapnine and increasing anoxia due to low pressure is very striking and complete. It is suggested that experimental catatonia, whether of toxic, electrical, or anoxic origin, is due to anoxia of the central nervous system. Also, there is the possibility that human catatonia is of similar origin.—C. P. Stone (Stanford).
404. Kornmüller, A. E. *Der Mechanismus der epileptischen Anfalls auf Grund bioelectrischer Untersuchungen am Zentralnervensystem*. (The mechanism of epileptic attacks on the ground of bioelectrical researches on the central nervous system.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 391-400.—D. S. Oberlin (Newark, Del.).
405. Krisch, H. *Die Lehrbarkeit der psychotherapeutischen Wissenschaft*. (The teachableness of the science of psychotherapy.) *Zbl. Psychother.*, 1935, 8, 227-234.—Krisch discusses: (1) The nature of psychotherapy, which he defines as psychic leadership in accordance with the teacher's personal ideal and the patient's capabilities. Race and hereditary constitution are the most important factors to consider. (2) Methods of teaching the scientific content common to all psychotherapeutic schools. He stresses the supremacy of intuition. It is possible to acquaint the student of average psychological insight with the important experiences of depth psychology, but the most important content of psychiatric teaching is racial hygiene and eugenics. (3) The teacher's qualifications, which are acquaintance with his own unconscious, a knowledge of life, and first-hand participation in it.—M. E. Morse (Baltimore).

406. Levin, M. The role of the cerebral cortex in narcolepsy; the classification of narcolepsy and allied disorders. *J. Neurol. Psychopath.*, 1935, 15, 236-241.—Manifestations of narcolepsy, and also normal sleep, are due to the irradiation of inhibition over the cortex rather than to a subcortical sleep center.—*D. G. Marquis* (Oxford, England).
407. Lewis, A. Neurosis and unemployment. *Lancet*, 1935, 229, 293-297.—This study was intended to evaluate the causes of neuroses among unemployed groups and to determine the social and clinical consequences. 52 males with mild chronic mental disorders associated with long periods of unemployment were the subjects of the study. The clinical picture was that of chronic neurosis in which hysteria predominated. Various combinations of anxiety, irritability, hypochondria, depression, resentment, and conversion symptoms were found. The family history was usually that of poverty with the male parent an unskilled worker. Childhood neurotic traits were common. Two-thirds of the men were unskilled workers. 50% of the group had been rejected from the army as unfit. Psychotherapy, medical treatment of physical ills, and occupation were included in the treatment employed.—*D. J. Ingle* (Mayo Foundation).
408. Lhermitte, J. Les hallucinations visuelles au cours des syndromes pédonculaires. Leur origine et leur mécanisme. (Visual hallucinations in the course of peduncular syndromes; their origin and their mechanism.) *Ann. méd.-psychol.*, 1934, 92, Part 2, 556-569.—Several cases are reported in which dream-like hallucinations are concomitant with neurological pathology in the peduncles. The pathology may be a softening, hemorrhage, or inflammation. It may be the result of polioencephalitis or intoxication due to excess doses of drugs such as barbitals. From the psychological side, the patient objectifies the hallucinations and usually considers them as a moving picture. There is little emotional disturbance. For instance, a woman who saw little green snakes in her bed thought some of the patients had placed them there as a joke and calmly set about removing them. The patients frequently slept during the day and began hallucinating at night. From the neurological side, among the symptoms there was sometimes found an involvement of the third cranial nerve with ptosis of the eyelid, facial paralysis, nystagmus, and lateral pulsion in the gait.—*M. B. Mitchell* (New Hampshire State Hospital).
409. Lurje, Z. L., & Esselevich, E. S. [Concerning acalculia.] *Sovetsk. Nevropat.*, 1935, 4, No. 5, 173-180.—The author shows on a clinical case that acalculia is not a special case of amnesic aphasia. Both phenomena are different displays of disorders of the same function. The doctrine of Goldstein that local lesions give a diffuse influence on the cortex explains the display of acalculia in case of disorders of the frontal occipital lobes.—*A. Yarmolenko* (Lenin-grad).
410. Magnusson, E. M. An outline and objective examination in the field of abnormal psychology. *Psychol. Bull.*, 1935, 32, 541.—Abstract.—*J. F. Dashiell* (North Carolina).
411. Marchand, L., Petit, P., & Fortineau, J. Syndrome d'automatisme mental et délire spirite. (Syndrome of mental automatism and spiritist delusion.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 461-466.—*M. B. Mitchell* (New Hampshire State Hospital).
412. Menninger, K. A. Psychology of a certain type of malingering. *Arch. Neurol. Psychiat.*, Chicago, 1935, 33, 507-515.—Malingering of the self-mutilative type may be described as a form of localized self-destruction which serves simultaneously as an externally directed aggression of deceit, robbery and false appeal. The aggression, in turn, obtains for the malingerer not only sympathy, attention, and monetary gain (at first), but ultimately exposure, reproach, and "punishment." Both aspects of the self-induced treatment by the outside world are strongly tinged with the perverted erotic satisfaction incident to masochism and exhibitionism.—*D. G. Marquis* (Oxford, England).
413. Metropolitan Health Council. Report on the St. Louis outbreak of encephalitis. *Pub. Hlth Bull.*, Wash., 1935, No. 214. Pp. 117.—This collection of papers by various members of the Council describes the epidemiological, pathological, neurological and clinical aspects of the 1933 epidemic. Behavior residuals were noted in 65% of the cases followed. Among the more frequent sequelae were headaches and pain, sleep disturbances, tremors, nervousness, visual disturbances, dizziness, forgetfulness or confusion, personality changes, speech disturbances.—*C. M. Louttit* (Indiana).
414. Mira, E. Les oligofrénies. (The oligophrenias.) *Rev. Psicol. Pedag.*, 1935, 3, 19-41.—This is Chapter XVII of Mira's textbook of psychiatry, about to be published by Salvat, Barcelona.—*M. E. Morse* (Baltimore).
415. Moniz, E., & Loff, R. Les hallucinations auditives dans un cas d'astrocytome du lobe temporal gauche. (Auditory hallucinations in a case of astrocytoma in the left temporal lobe.) *Encéphale*, 1935, 30, 20-29.—The authors present observations made on a woman, aged 37, who complained of hearing voices of people whom she did not recognize, first on the right side, then on both sides, and finally on the left side chiefly. The autopsy showed a tumor in the middle and upper parts of the temporal lobe. This large tumor occupied the middle portion of the first two convolutions on the left hand temporal side, spreading over the insula, a part of the internal capsule, and the lateral ventricle, and exerting a strong pressure on the cerebral peduncle. Tumors of the cortex of the middle portion of the temporal lobe can bring about auditory verbal hallucinations. The middle portion of the first convolution is always afflicted in such cases.—*M. H. Piéron* (Sorbonne).
416. Müller, M. Individuelle Psychotherapie. (Individual psychotherapy.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 282-294.—The author first points out

the difficult role of the physician in psychotherapy. He must be the object of "transference" and at the same time must keep his distance in order to hold the upper hand in the treatment of the conflict. The author then defines individual psychotherapy as that type of psychotherapy in which all mental treatment proceeds solely from the physician to the patient. The two types of individual psychotherapy are the "uncovering," in which category is placed psychoanalysis, and the "concealing," which includes hypnosis, suggestion, and persuasion. He differentiates between the methods of the two techniques by outlining a case and describing the treatment as it is carried out by the different methods.—D. S. Oberlin (Newark, Del.)

417. Müller, M. **Kollektive Psychotherapie.** (Collective psychotherapy.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 330-340.—The author herein describes the new methods of collective psychotherapy as illustrated by Simon's model institution in Westphalia. By collective therapy is meant that psychotherapy which is practiced when the patient or patients are treated by more than one person. This type of therapy is used more with patients suffering from mental diseases than with neurotics, and as such is mainly to be found in institutional work. The author points out that all persons concerned with an institution, kitchen help, attendants and nurses as well as doctors, are carrying out collective psychotherapy. Occupational therapy should be meaningful and useful, so that the patient may feel that he counts for something. The author points out the therapeutic value of dances, moving pictures, etc., in making the atmosphere one of normality. The author fears, however, that there is a danger in the situation, namely, that the atmosphere of an institution thus organized may be so rigidly controlled that patients apparently cured will meet with exciting and shocking situations after their release, and that their regained capability is only a function of the institution situation.—D. S. Oberlin (Newark, Del.)

418. Müller, M. **Therapie der Geisteskrankheiten. III. Die körperlichen Behandlungsmethoden.** (Therapy of mental disease. III. Methods of physical treatment.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 363-381.—D. S. Oberlin (Newark, Del.)

419. Muncie, W. **Einige vergleichende Betrachtungen über deutsche und amerikanische Psychiatrie.** (A few comparisons between German and American psychiatry.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 358-362.—The author limits his comparison of German and American psychiatry to the consideration of the fundamental points of view of psychiatry, the place of psychiatry in the study of medicine, psychiatry in relation to other fields of medicine, and psychiatric investigation and therapy. In the first section the author finds that the American point of view is that man is an indivisible integral unity, and therefore that his mental integration level is nothing more than his behavior as an individual; whereas the predominant German concept is that mental disease may for all practical purposes be considered the same

as brain disease. The second section, dealing with the differences in psychiatric education, is devoted to a discussion of the greater facilities for studying psychiatry in America, and also to pointing out that psychiatry there is part of a general course as well as a specialist's field. The next section presents the bearing of psychiatry on mental hygiene and social science. In discussing the differences between the types of investigations carried on by psychiatrists in America and those in Germany, the author points out that the differences are due to the fundamental differences in points of view of the two countries.—D. S. Oberlin (Newark, Del.)

420. Nissen, A. **Den kliniske tilstand tuberkulose schizofreni.** (The clinical condition in tubercular schizophrenia.) *Tidsskr. norske Lægeforen.*, 1935, 55, 885-898.—General historical résumé and results of the writer's observations on 58 patients concerning the relationship between tuberculosis and schizophrenia, with an attempt at a description of the syndrome "tubercular schizophrenia."—M. L. Reymert (Mooseheart Laboratory for Child Research).

421. Orgel, S. Z. **Etiological factors in the production of neuroses and their treatment.** *Arch. Pediat.*, 1935, 9, 325-334.—R. R. Willoughby (Clark).

422. Osgood, C. W. **Mental changes associated with pernicious anemia.** *J. Amer. med. Ass.*, 1935, 104, 2155-2157.—Involvement of the central nervous system in pernicious anemia is generally limited to the cord. Mild mental changes are reported in as high as 40% of the cases. The author collected 76 cases in which there was pernicious anemia with psychosis. Analysis of the case histories gives little support for an etiologic relationship.—D. J. Ingle (Mayo Foundation).

423. Ossipov, V. P. **[The limits of schizophrenia; mild schizophrenic forms and their diagnosis.]** *Sovetsk. Nevropatol.*, 1935, 4, No. 7, 1-30.—The conception of schizophrenia is now too broad and needs defined limits as a nosological unit. It is a processual organic disease, having its own complex of symptoms. The mild form must be distinguished from reactional states, the investigation starting from the hereditary and premorbid personality.—A. Yarmolenko (Leninograd).

424. Ostancow, P. **Le signe du miroir dans la démence précoce.** (The mirror sign in dementia praecox.) *Ann. méd.-psychol.*, 1934, 92, Part 2, 787-790.—The mirror sign as described by Paul Abély is found in two forms in dementia praecox patients. It is one of the early symptoms and is significant in the diagnosis and prognosis. The patient frequently denies that he looks in the mirror because he does not wish to give his reasons. He may have hypochondriacal ideas such as that he is afflicted with syphilis or that his face is peculiar and people are making remarks about his looks. The other variety occurring in old chronic cases is more stereotyped and may be spoken of as a symptom reflex. It is the type found in terminal organic cases such as general paresis.—M. B. Mitchell (New Hampshire State Hospital).

425. Paterson, A. S. The respiratory rhythm in normal and psychotic subjects. *J. Neurol. Psychopath.*, 1935, 16, 36-53.—Records of the respiratory rhythm of 65 normal subjects and of 178 psychotic patients were obtained by the method of Golla and Antonovitch. Among normal subjects 50% show a regular rhythm and 50% an irregular rhythm. Of the schizophrenics, however, 69% show a regular rhythm, and the proportion is greater for those of long-standing hospitalization. Evidence is presented that the irregular rhythm is associated with mental processes involving auditory imagery.—D. G. Marquis (Oxford, England).

426. Petré, A. Från riksdagen. (From the Parliament.) *Svenska Läkartidn.*, 1935, 32, 1198-1207.—The writer describes official state budget, new buildings, and clinic facilities made available for carrying out the requirements of the new law concerning the care of insane and feeble-minded in Sweden.—M. L. Reymert (Mooseheart Laboratory for Child Research).

427. Philipenko, P. D. [Psychogenesis in epileptoid psychopaths.] *Sovetsk. Psikhonevrol.*, 1935, No. 3, 65-73.—The psychogenous reactions are divided into four groups according to the characterological components in epileptoid psychopaths. The first type is that in which the epileptoid traits are the leading feature of the patient's personality. The psychic traumas lead to exacerbation of all characterological components. The second type, a mixed one, shows on the essentially epileptic background additional hysteroid traits, and reacts to acute psychic traumas with disorders of consciousness. Another mixed type shows single schizoid components on the epileptoid base. The fourth group has isolated features of cycloid constitution on the epileptoid ground. The course of psychogenous reactions is slow.—A. Yarmolenko (Leningrad).

428. Protopopov, V. P. Idei I. P. Pavlov v psikhia-trichni klinitsi. (Pavlov's ideas in the psychiatric clinic.) *Méd. exp., Kharkov*, 1935, No. 1, 16-22.—F. S. Keller (Colgate).

429. Reistrup, H. Schizofreni (dementia praecox). (Schizophrenia—dementia praecox.) *Ugeskr. Laeg.*, 1935, No. 35, 891-893.—Brief exposition of central points in schizophrenia, as conceived by M. Bleuler in *Arch. Neurol. Psychiat.*, 1931, 36, 610 ff.—M. L. Reymert (Mooseheart Laboratory for Child Research).

430. Rontchevsky, S. P., & Skalskaya, V. V. [Experimental and clinical data concerning the hallucinations.] *Sovetsk. Nevropatol.*, 1935, 4, No. 5, 10-22.—Using the "adaptometrical" method of investigation (adaptation to light, followed by adaptation to darkness), the authors have found that patients with mental disorders develop a display of entoptic and elementary optical hallucinations, and that this occurs more with a group of functional psychoses than with organic ones. The entoptic phenomena were polymorphous, stable, colored, and stereotypic. The genesis of these optic delusive perceptions is in sensory

excitation, due to the darkness evoking the photo-receptor reaction.—A. Yarmolenko (Leningrad).

431. Rosanoff, A. J. The genetic history of intelligence with special reference to the etiology of mental deficiency, based on a study of twins. *Psychol. Bull.*, 1935, 32, 544.—Abstract.—J. F. Dashiell (North Carolina).

432. Rümke, H. C. Lebensphasen und Psychotherapie. (Life phases and psychotherapy.) *Zbl. Psychother.*, 1935, 8, 209-219.—Continuing his studies on the rising and falling life curve, Rümke discusses its determining factors; the characteristic and inescapable problems of each phase; the normal and neurotic reactions to them; and the psychotherapy suited to each period. His classification of stages (for males) is: pueritia (0-15); adolescentia (15-25); juvenus (25-40); virilitas (40-55); and senectus (60+). The first shattering of existence comes between the juvenus and virilitas periods. A crisis of different significance is that of involution in the latter period. As to psychotherapy: in childhood, all depends on rapport; in the latent period, individual psychology rather than analysis is indicated. For severe disturbances at puberty analysis is indispensable, also during the juvenus and early virilitas stages. During the forties Jung's method is sovereign. After 50, one must be cautious with depth psychology; yet Rümke has conducted successfully real analyses in certain very plastic individuals between 55 and 60.—M. E. Morse (Baltimore).

433. Sengès, N. Positivisme médical et responsabilité pénale. I. (Medical positivism and legal responsibility. I.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 19-50.—The question of responsibility is threefold, psychological, moral, and penal. Most of the criminal laws were formulated before much scientific knowledge of a psychological nature was available. According to the French law, a criminal or delinquent is responsible if at the time of his offense he could tell right from wrong. This definition has led to many battles between medical experts and has necessitated the psychiatrist's choosing the lesser of two evils—declaring a person who is a little abnormal definitely insane or declaring a person who has perverse instincts or is a little unbalanced perfectly responsible. In cases of especially brutal crimes or where public personages are involved, the newspaper publicity and public opinion encourage the infliction of punishment rather than a medical diagnosis followed by treatment. The person whose intellect is intact but who is morally anesthetic can choose his action and risk punishment. He will not profit by imprisonment, but according to the old view he is legally responsible. Such people should be placed in special sections of mental hospitals, as l'Asile de Villejuif or l'Asile de Hoerd.—M. B. Mitchell (New Hampshire State Hospital).

434. Sengès, N. Positivisme médical et responsabilité pénale. II. (Medical positivism and legal responsibility. II.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 203-233.—A study of the whole normal man should be the basis for criminal reform. Many who

appear normal because they do not get into trouble with the law have criminal tendencies, and many who are institutionalized as insane can differentiate between right and wrong. There are all gradations between the perfectly social individual and the recidivist. The medical and biological positivism which aims to codify human behavior must take the complex human personality into account as well as the medical and psychiatric aspects.—*M. B. Mitchell* (New Hampshire State Hospital).

435. **Simmins, C.** *Mental incapacity: the intelligence of patients in mental hospitals.* *Character & Pers.*, 1935, 4, 25-33.—Other experimenters have shown that Terman's vocabulary test constitutes a good measure of the undeteriorated intelligence of mental patients. It is inadequate, however, for such cases as senile dementia, general paralysis of the insane, and epilepsy. The author used the difference between the vocabulary score and the general intelligence score as a measure of deterioration among patients with the following classes of disease: mania, melancholia, manic-depressive psychosis, delusions, dementia praecox, and general paralysis of the insane. Of 85 patients, 70% showed deterioration; of the remaining 30% (without deterioration), several were soon discharged as being non-psychotic, some soon recovered and were discharged, a few were puerperal cases, and several cases were rated with varying degrees of severity of disease. Of 86 patients admitted to two other hospitals which accepted patients expected to recover, a much smaller percentage showed deterioration by the author's technique. Among other questions raised, the author is concerned with whether the apparent deterioration of intelligence in a psychotic patient is merely a failure to direct intelligence effectively or whether it is in fact diminished intelligence.—*M. O. Wilson* (Oklahoma).

436. **Simon, T., & Ferdière, G.** *Un cas d'exhibitionnisme féminin par délire d'interprétation.* (A case of feminine exhibitionism with delusion of interpretation.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 430-436.—*M. B. Mitchell* (New Hampshire State Hospital).

437. **Singer, H. D.** *Research in psychiatry.* *J. Amer. med. Ass.*, 1935, 104, 2223-2226.—During the past decade there has been a decrease in clinical studies but an increase in physiological and psychological studies of mental disease. From the point of view of the author the physiological and psychological methods afford an explanation only of the symptoms and forms of mental disease and not of its nature. "Psychiatry is essentially a clinical subject. Advances in other fields of clinical medicine have led and not followed laboratory discoveries. It seems logical to conclude that this story will be repeated in psychiatry." The clinical method of research in psychiatry is to be encouraged.—*D. J. Ingle* (Mayo Foundation).

438. **Sovilansky, S. J., & Misrukhn, J. A.** [Ty-pology of epileptoid psychopathy.] *Sovetsk. Psi-khonevol.*, 1935, No. 3, 47-54.—The authors define epileptoid psychopathy as an inborn characterological state or structure bearing a resemblance to an acquired

one as a result of a pathological process. The primary and secondary traits are to be noted. The epileptoid psychopathics are divided into three groups: explosive psychopathics, defensive psychopathics, and "Triebmenschen." The classification in a definite group depends on innate characterological structure and secondary influence of the environment.—*A. Yarmolenko* (Leningrad).

439. **Speer, E.** *Die Liebesfähigkeit (Kontakt-psychologie).* (Love capacity—contact psychology.) München: Lehmann, 1935. Pp. 140. RM. 3.20; 4.50.—The author, in his work with neurotic patients, has been led to view schizophrenia as a widespread degenerative change, marked in its early stages by certain diagnostic signs ("schizophrene Farben") and terminating ultimately in the psychosis proper. He sees in eccentricity the outstanding characteristic of schizophrenia, and shows how the need for individuality originates and may be altered. With interspersed sketches of the fate of certain patients he develops a "contact" psychology which deals in the final analysis with the love capacity of man.—*E. Speer* (Lindau).

440. **Spek, J. v. d.** *De geestelijke volksgezondheid en de pers.* (Mental hygiene and the press.) *J. belge Neurol. Psychiat.*, 1935, 35, 409-416.—Some aspects of the connection between mental hygiene and the press are discussed and the possibility of national and international planning in that respect is mentioned. The author suggests an international center to deal with the problems of mental hygiene and their relation to the press.—*H. Sys* (Cornell).

441. **Steinert, W.** *Prämorbid Persönlichkeit und Presbyophrenie.* (Premorbid personality and presbyophrenia.) Zeulenroda i. Thür.: Oberreuter, 1935. Pp. 23.—*R. R. Willoughby* (Clark).

442. **Stern, E.** *Psychothérapie et métaphysique.* (Psychotherapy and metaphysics.) *Hyg. ment.*, 1935, 30, No. 10, 237-249.—*M. H. Piéron* (Sorbonne).

443. **Strauss, I., & Keschner, M.** *Mental symptoms in cases of tumor of the frontal lobe.* *Arch. Neurol. Psychiat.*, Chicago, 1935, 33, 986-1007.—An analysis of the case records of 85 verified tumors of the frontal lobe. Abnormal mental reactions were noted in 90% of the cases. The most frequent symptoms were referable to the sensorium (perception, attention, etc.); next in order of frequency were changes in personality and disturbances in affect, intellect, memory, and orientation. Euphoria and facetiousness did not occur with sufficient frequency to justify their consideration as pathognomonic of tumor of the frontal lobe.—*D. G. Marquis* (Oxford, England).

444. **Strecker, E. A., & Ebaugh, F. G.** *Practical clinical psychiatry for students and practitioners.* (4th ed.) Philadelphia: Blakiston, 1935. Pp. xvi + 705. \$5.00.—A rewritten and enlarged edition of this textbook of psychiatry, with a special chapter on psychopathological problems of children by Leo Kanner and a foreword by Adolf Meyer. The authors have drawn heavily on Meyer's psychobiological

viewpoint. The case method of presentation has been retained and amplified. Illustrations, glossary, bibliographies and index.—*D. Shakow* (Worcester State Hospital).

445. Sullivan, E. A. The rôle of psychological maladjustment in college and in later placement. *J. nerv. ment. Dis.*, 1935, 82, 147-161.—The symptoms of only five classified mental diseases are found in college students. These five disorders in the order of their frequency are the psychoneuroses, the psychopathies, the manic-depressive psychoses, the schizophrenias, and the epilepsies. The causes for psychological maladjustment in students are found most frequently in the student's own reaction to a complex family situation or to inner personal conflicts. Psychological maladjustments after college may be caused by loss of protection and necessity for facing new social and economic realities. Cases are cited.—*C. R. Atwell* (Boston Psychopathic Hospital).

446. Thiele, R. Aphasie, Apraxie, Agnosie. (Aphasia, apraxia, agnosia.) *Fortschr. Neurol. Psychiat.*, 1935, 7, 255-269.—This article is a collection of brief discussions of the various investigations which have recently been carried out in the fields of aphasia, etc. Work on aphasia in childhood carried out by Brunner and Stengel, observations on two cases of total aphasia by Kosis, Rosenberg's differentiation of disturbances of intention and changes in situation through speech from characteristic speech disturbances, as well as the work of many other investigators are discussed in the first few pages. The next portion is a recapitulation of investigations on apraxia, including Gros's description of a transitory apraxia of the left hand attendant on a brain tumor. The remainder of the article recounts work by Lange, Golant-Ratner, and others. There is a bibliography.—*D. S. Oberlin* (Newark, Del.).

447. Tramer, M. Tagebuch über ein geisteskrankes Kind. (Diary on a psychotic child.) *Z. Kinderpsychiat.*, 1935, 2, 86-90.—The fifth installment of this diary, covering the latter part of the fourth year of life through the first half of the fifth year.—*D. Shakow* (Worcester State Hospital).

448. Van Bogaert, L. Sur la pathologie de l'image de soi. Etudes anatomo-cliniques I. (The pathology of the image of oneself. Clinical-anatomical studies I.) *Ann. méd.-psychol.*, 1934, 92, Part 2, 519-555.—Cases were reported of patients who complained of tactual and kinesthetic sensations, especially pain, in arms or legs which had been amputated. A patient who had been operated upon under spinal anesthesia complained for five days that he was still in a gynecological position, although his legs were flat against the bed. Still others considered their legs or arms as objects apart from themselves. A patient with thalamic lesions complained of his paralyzed arm being uncomfortable under his head, although it had been lying at his side all the time. This occurred most frequently following paroxysms of pain. Similar disturbances were found in some hemiplegics. Some patients seemed to forget about parts of their body and would tend to localize everything on one side.

One patient would neglect one side of his body. He would allow that leg to hang out of the bed, go undressed, or remain in uncomfortable positions until his attention was called to it. In such cases there seemed to be some cortical destruction.—*M. B. Mitchell* (New Hampshire State Hospital).

449. Van Bogaert, L. Sur la pathologie de l'image de soi. Etudes anatomo-cliniques II. (The pathology of the image of oneself. Clinical-anatomical studies II.) *Ann. méd.-psychol.*, 1934, 92, Part 2, 744-759.—An elderly female diabetic had attacks in which she thought everything in her room had shrunk in size except herself. A male patient suffering with a rectal cancer which had a left spinal metastasis projected to the extent of feeling constantly at his left side his double, who he thought suffered the same as he. The author considers this double as the same type of projection found in the cases with phantom members. Two cases were reviewed of young women who first denied their own menses and later became completely depersonalized. The author believes this depersonalization in turn to be analogous to having a double. Bibliography.—*M. B. Mitchell* (New Hampshire State Hospital).

450. [Various]. Problemy psikiatrii i psikhopatologii. (Problems in psychiatry and psychopathology.) Moscow: Biomedgiz, 1935. Pp. 730.—This collected volume is dedicated to the celebration of the completion of 20 years of psychiatric work of N. P. Brukhanski, and contains 62 articles reflecting the modern state of Soviet psychiatry in different lines: from psychopathology and clinical work, psychoses, neuroses, and vegeto-neuroses, to forensic psychopathology, mental hygiene and social psychiatry. European scientists, as A. Kronfeld, E. and L. Minkovski, participate in this volume as well as the Russian psychiatrists.—*A. Yarmolenko* (Leningrad).

451. [Various.] A. E. Bisgaard. Opuscula neurologico-psychiatrica. (Neurological and psychiatric papers.) *Acta psychiat. neurol.*, 1935, 10, 199-640.—This is a Festschrift in honor of Bisgaard's sixtieth birthday. The volume starts with a complete bibliography of his works and continues with twenty-four original scientific contributions in German, French and English by former pupils. The following are of special interest: V. Henriksen, Eine katamnestische Untersuchung zur Beleuchtung des Verhältnisses zwischen Kindertetanie und Epilepsie; E. Jarlov, Comments on present-day ambulant treatment of epilepsy; R. Marthinsen, Einige Gefässreaktionen bei Epileptikern; P. Reiter, Ueber charakterogene Paranoia; H. Schou, Alimentary hyperglycemia and manic-depressive psychosis; G. Schröder, Un cas d'exhibitionnisme chez une femme; A. Yde, On the amounts of serum bilirubin in diseases of the mind.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

452. Vié, J. Les aspects sociaux de la colonisation hétérofamiliale des aliénés (dans les colonies du type Gheel). (Social aspects of the hetero-familial colonization of mental patients in colonies of the Gheel type.) *J. belge Neurol. Psychiat.*, 1935, 35,

373-380.—The author discusses the practice of placing mental patients with families instead of keeping them in institutions. He believes that the value of this procedure depends on the environment chosen and on the comfort, understanding and sympathy offered by the families selected. It is really a form of social psychotherapy, a readaptation to a neutral and simple family setting, providing a natural and free occupation and work therapy. The placement of mental patients should not be confined to one class, but paying patients should be placed also with the well-to-do. The fundamental indication is to assist those who would otherwise be permanently isolated socially. Backward children should also be educated in this way.—*H. Sys* (Cornell).

453. **Vurpas, C., Crouzon, O., & Chapiro, P.** *Obsessions suivies de réalisation.* (Obsessions followed by realization.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 453-461.—*M. B. Mitchell* (New Hampshire State Hospital).

454. **Weinmann, K.** Two cases illustrating psychic factors in endocrine disturbances. *Int. J. indiv. Psychol.*, 1935, 1, 29-33.—The author asserts that there are probably no disturbances of man, whether dominantly physical or psychic, in which the functioning of the glands of internal secretion is not involved. Particularly Basedow's disease and diabetes have been clinically demonstrated to follow severe psychic disturbances. Conversely, depressions accompany disturbances of the sex and pituitary glands. Psychological treatment is followed by organic improvement. Two cases are presented, one a woman with slight defects in ovarian and pituitary functions, suffering from violent emotional disturbances, the other a woman with slight manic-depressive psychosis, showing marked ovarian and pituitary irregularities and less of the pancreas and thyroid.—*O. N. de Weerd* (Beloit).

455. **Weisenburg, T., & McBride, K. E.** *Aphasia. A clinical and psychological study.* New York: Commonwealth Fund, 1935. Pp. xvi + 634. \$5.00.—An exhaustive discussion of the problem of aphasia, based on the authors' own extensive investigations and on a critical survey of the literature. The authors' own investigation was undertaken primarily with the purpose of establishing a satisfactory battery of tests, as some of the current methods of examination failed to differentiate between aphasic and normal subjects. 60 clear-cut cases of aphasia were selected and their performance compared with that of a group of 85 normal controls, closely comparable to the aphasic group in educational and occupational status. A further control group consisted of 38 patients with a unilateral cerebral lesion without aphasia. The standardized battery contains, besides the usual tests of speech, a number of educational achievement tests devised for children, language intelligence tests, and non-language tests. On the basis of the findings the aphasic disorders are classified into expressive, receptive, expressive-receptive and amnesic types, all of which are discussed in detail and illustrated by numerous case reports. The value of this classifica-

tion as compared with the older ones, with some of which it partly coincides, is its relative simplicity and freedom from theoretical preconceptions. With regard to the aphasic disorders in their totality, it is stated that although the predominant disturbance is that of language, the non-language activities and social behavior are practically always disturbed as well. The authors offer no theory, concluding rather that "aphasia cannot be understood as a unitary disorder, but is rather a poorly defined group of disorders which predominate in language processes but usually extend beyond them, and which may differ considerably in their nature." The problem of cerebral localization is discussed, particularly with regard to the predominant site of the lesion in the four established types of aphasia. Throughout the study an attempt is made to present *in extenso* the case material on which the conclusions are based. Bibliography and index.—*E. Hanfmann* (Worcester State Hospital).

456. **Weygandt, W.** *Lehrbuch der Nerven- und Geisteskrankheiten.* (Textbook of nervous and mental diseases.) Halle: Marhold, 1935. Pp. xxxi + 663. RM 27.—This is the first German textbook which combines neurology and psychiatry and is based on hereditary biology and its application to eugenics. Rüdin, Reichs-leader of the German Neurological and Psychiatric Society and Director of the Kaiser Wilhelm Institute for Genealogy and Demography, contributes the introduction. Weygandt discusses physical symptoms, diagnosis, prognosis and treatment (with special reference to eugenic sterilization and marriage laws); developmental disturbances of childhood; epilepsy; schizophrenia; and sexual pathology. Among the collaborators are: Megendorfer (etiology, neural syphilis); Walter (biological problems); Gruhle (psychopathology, psychopathies, neuroses, manic-depressive psychosis); Rittershaus (forensic psychiatry); Kihn (diseases of involution and old age); Veraguth (diseases of the brain); and Stertz (nervous disturbances in somatic diseases). Each chapter contains a bibliography.—*W. Weygandt* (Hamburg).

457. **Young, J. C.** *Individual psychology and holistic medicine.* *Int. J. indiv. Psychol.*, 1935, 1, 13-18.—A brief summary of J. C. Smuts' holistic philosophy is presented. The principle of the wholeness of personality is then applied to medical treatment with illustrative cases. This is followed by a plea that physicians recognize psychological as well as physical causes of organic disturbances.—*O. N. de Weerd* (Beloit).

458. **Zilboorg, G.** Some physical aspects of mental disease. *N. Y. St. J. Med.*, 1935, 35, 705-713.—*R. R. Willoughby* (Clark).

[See also abstracts 4, 122, 132, 133, 168, 303, 309, 325, 464, 466, 499, 504, 519, 602, 603, 660, 663.]

PERSONALITY AND CHARACTER

459. **Alier i Gómez, J. J.** *Resultats obtinguts amb el qüestionari íntim del Prof. Mira.* (Results obtained with Mira's confidential questionnaire.) *Rev. Psicol.*

Pedag., 1935, 3, 57-74.—Mira's questionnaire (given in text) consists of 14 inquiries concerning the quality and intensity of external impressions; attitude toward life; methods of dominating the environment; persons influencing the subject positively and negatively; and his feelings of inferiority, injustice and guilt. Alier tried the questionnaire on 337 persons, of whom 225 were also given intelligence tests. He concludes that, within obvious limitations, the questionnaire combined with the reaction toward it gives a reliable picture of the individual's affectivity. The results are analyzed according to sex (the women's attitudes differed greatly from the men's) and degree of intelligence. The differences in the subnormal, normal and supranormal groups lay not only in the percentages of different attitudes but in the quality of environmental influence. Inadequate reactions were inversely proportional to intelligence. Introversion was most marked among the defective. In them the source of inferiority feelings lay in social relations; in supernormals, in the family. The various reactions, however, are so interwoven that no general laws or classifications are possible.—*M. E. Morse* (Baltimore).

460. Allen, M. Some aspects of the psychology of kindness. *Lancet*, 1935, 228, 1079-1082.—An analysis of the motives of the giver and of those underlying capacity to receive kindness.—*D. J. Ingle* (Mayo Foundation).

461. Bartlett, M. R. The auditory threshold in reverie; a study of normal and psychopathic individuals. *Arch. Psychol.*, N. Y., 1935, No. 182. Pp. 42.—The main problem is concerned with the application of a psychophysical method to a study of clinical types. Travis studied changes taking place in auditory thresholds. The present research repeated Travis' experiment, but the results did not agree. A tendency for the dementia praecox cases to show less change in threshold in audition than do the normal and the psychoneurotic groups may be due to the perseverating tendencies characteristic of the schizophrenic syndrome. In the psychoneurotic subjects wide variability is related to distractibility of attention and to easy fatigability. Changes in auditory threshold on day-to-day repetition were constant neither in degree nor in direction, probably because of immediate physiological factors of sleepiness and relaxation or of increased muscular tonus. In the main experiment 24 psychoneurotics, 26 schizophrenics, and 30 normals were subjects. Besides the technique for determining the threshold, four personality and intelligence tests were given.—*E. M. Achilles* (Columbia).

462. Briggs, A. E. The concept of personality. *Univ. So. Calif. Sch. Res. Stud.*, 1935, No. 7. Pp. 55.—The author has attempted to interpret personality from sociological and legal points of view, using the comparative technique. He brings into juxtaposition the various concepts of personality, placing particular emphasis upon personality as it is interpreted in sociology, law, psychology, economics, and political science. After a thorough critical examination of

these various interpretative possibilities, he evolves what appears to be a new concept. He analyzes personality structurally and processually, as Bogardus explains in a foreword. Briggs shows that personality performs "the role of mediation between the subjective and objective aspects of experience." He seeks to make the term *person* "a flexible and useful concept of logic in the social sciences." He places personality as a concept at the center of the law, but not until he has sociologized the legal concept. He says that the need of personality is paramount to the law. 81-item bibliography.—*L. Balsam* (Clark).

463. De la Vaissière, J. La pudeur instinctive. (Instinctive modesty.) Juvisy: Cerf, 1935. Pp. 153. 12 fr.—The first part of the book, consisting of three chapters, treats of the explicit psychology of instinctive modesty (its existence, nature, and individualization) omitting everything pertaining to physiology and to anomalies. The second part, two chapters, treats of the education of instinctive modesty, certain inferences being deduced from the first part. In the first chapter of this section the author explains his use of the term instinctive modesty: it is a constitutive element of human nature, a universal innate and indestructible dynamism, a dynamism which is subject to a nearly instinctive comprehension and which is in a direct relation to the sexual processes. A bibliography of 112 titles is given.—*M. H. Piéron* (Sorbonne).

464. Farram, F. The relation of ascendance-submission tendencies to neurosis. *Aust. J. Psychol. Phil.*, 1935, 13, 228-232.—Results with Thurstone's Personal Inventory (reduced to 42 questions) and the Allport A-S Reaction Study, when administered twice with an eight-week interval, correlated .702 for (60) men and .669 for (56) women. These correlations are higher than those obtained by others, perhaps because of limitation of the Thurstone test to 42 questions "most indicative of neurosis." It is concluded that the Adlerian concept of neurosis offers a more general and a simpler explanation than the Freudian.—*H. D. Spoerl* (Northeastern).

465. Gardner, I. C. The effect of a group of social stimuli upon attitudes. *J. educ. Psychol.*, 1935, 26, 471-478.—The cumulative effects of a lecture, a story, and a "chalk talk," spaced a week apart, on the scores of junior high school students on the Peterson-Thurstone scale on *Attitude Toward War*, and on the scores of college freshmen on the Smith-Thurstone scale on *Attitude Toward Prohibition*, were determined. To measure these changes in attitude the two forms of each scale were used twice. It is concluded that the three social stimuli had a cumulative effect on the attitudes in the direction intended by the experimenter.—*A. W. Melton* (Missouri).

466. Goldblatt, H., & Flejer, M. Ueber Körperbau und Charakter bei symptomatischer Epilepsie im Kindes- und Jugendalter. (Physique and character in symptomatic epilepsy in childhood and youth.) *Z. Kinderpsychiat.*, 1935, 2, 65-69.—In 25 cases of symptomatic epilepsy in young people the authors found a predominance of athletic body type as well

as a relatively great number of cases with single or multiple epileptic traits.—*D. Shakow* (Worcester State Hospital).

467. **Harsh, C. M.** A factorial analysis of the responses to an annoyance inventory. *Psychol. Bull.*, 1935, 32, 535.—Abstract.—*J. F. Dashiell* (North Carolina).

468. **Humm, D. G.** Intercorrelations of the components of temperament measured by the Humm-Wadsworth temperament scale. *Psychol. Bull.*, 1935, 32, 537.—Abstract.—*J. F. Dashiell* (North Carolina).

469. **Ingle, D. J.** Endocrine function and personality. *Psychol. Rev.*, 1935, 42, 466-479.—Questions are raised concerning the role of the endocrine glands in changing personality from birth to senescence and in causing individual differences, and concerning the effect of their malfunction and of experimental alterations in their amount. The incomplete and contradictory evidence makes it possible to support almost any viewpoint; but certain general relations appear. Changes in learning ability from birth to maturity depend on certain hormones. No necessary relation exists between intelligence and endocrine dysfunction, except in extreme conditions. The relation of glands to emotion is still obscure. Sex behavior is partly but not wholly dependent on the presence of the gonads. Motility is loosely related to the amount of certain hormones. Abnormal behavior shows a slight correlation with endocrine dysfunction, but no essential relation. Investigators in this field should be trained in both endocrinology and psychology.—*A. G. Bills* (Chicago).

470. **Israeli, N.** The outlook upon the future of British unemployed, mental patients and others. Lancaster: Science Press, 1935. Pp. 30. \$.50.—This is a study made upon several English groups, including 118 mental patients, 128 university students, 115 Scottish unemployed, 145 high-school students in Scotland, and 166 Lancashire unemployed. The technique used was to give three multiple-choice forms. Each form had a number of questions about the individual's future outlook and he was to select the degree to which the trait or feeling existed in him. The chief findings were that the unemployed showed considerable distress, and there was suggested the existence of a condition which might be called "unemployment shock." The results of unemployment, however, were not obvious beyond this. The mental patients were apprehensive of the future in the same sense that one would naturally expect, the anxiety cases most apprehensive, the depressives next, the schizophrenics least negative, while the manics were extremely exuberant. The author considers his study as a preliminary investigation on an important factor of personality, namely, the outlook toward the future. The personality cannot be evaluated without considering its projection into future time.—*L. S. Selling* (Wayne).

471. **Katz, B.** An experimental and clinical evaluation of the concept "nervous instability." *Psychol. Bull.*, 1935, 32, 538-539.—Abstract.—*J. F. Dashiell* (North Carolina).

472. **Kempf, E. J.** Physiology of attitude—emergence of ego-organization. *Med. Rec.*, N. Y., 1935, 142, 336-337.—(Eleventh installment.) The author continues by discussing the contribution to attitudinal organization of the somatic neuro-muscular system and the influence of exteroceptor stimulation. Experimental analysis of reflex activity of the spinal cord has demonstrated that somatic muscle, with its afferent and efferent neurones and blood supply intact, forms a functional unit capable of autogenous regulatory excitation and inhibition in adaptation to changing external forces, with the action of each group of reflexes exercising a reciprocal counterbalancing reaction upon every other group. Since each muscle is supplied by many motoneurons, it can be subjected to conflicting instead of reciprocal innervation, as has been demonstrated in laboratory experiments with dogs and as may be inferred from the behavior of neurotic people. The author believes that "all functional neuroses and psychoses can be explained as conflicts of reflexes, from conditioning conflicting environmental and especially social stimuli." The final determinants in behavior arise from the manner in which autonomic-affective reflexes are organized at the moment. Exposure to approaching uncertain or oppressive social forces causes increase in muscle tensions which form the basis for the counterbalancing resistance, or behavioral response. A 12-item bibliography is appended.—*M. H. Erickson* (Eloise Hospital).

473. **Kuznets, G., & Tryon, R. C.** A study of the incidence in six populations of neurotic responses to items of the Thurstone personality schedule. *Psychol. Bull.*, 1935, 32, 539-540.—Abstract.—*J. F. Dashiell* (North Carolina).

474. **Lorge, I., Bernholz, E., & Sells, S. B.** Personality traits by fiat. II. The consistency of the Bernreuter personality inventory by the Bernreuter and Flanagan keys. *J. educ. Psychol.*, 1935, 26, 427-434.—A further attack on the Bernreuter scoring keys for the Bernreuter Personality Inventory. The argument based on consistency is that the average "Yes," "No," and "?" responses, as determined by the Bernreuter keys, should be correlated positively since they are assumed to be measuring the same trait. Lorge finds that the intercorrelations of the averages of the weights earned in any one of the Bernreuter traits by the "Yes" responses, the "No" responses, and the "?" responses are low and are exceeded by the inter-trait correlations. It is concluded that the trait measures given by the Bernreuter keys are inconsistent. The same method of analysis is applied to the Flanagan keys for the Bernreuter Personality Inventory, and they too are found to yield inconsistent trait measures. However, this conclusion regarding the consistency of the trait measures yielded by the Flanagan keys has been found to be in error, as a result of errors in the calculation of the correlation coefficients. A correction of the pertinent correlation coefficients, and the conclusion that the Flanagan keys yield consistent trait measures, is to be published in an early issue of the *J. educ. Psychol.*—*A. W. Melton* (Missouri).

475. Powell, M. Relation of scholastic discrepancy to free associations on the Rorschach tests. *Kentucky Person. Bull.*, 1935, No. 14.—R. R. Willoughby (Clark).

476. Roback, A. A. Race and mode of expression: a preliminary investigation in collective personality. *Character & Pers.*, 1935, 4, 53-60.—Do different races offer a residue of reaction patterns sufficiently distinct for classifying individuals according to their respective races? Using the Jewish and non-Jewish races as examples, the author discusses and illustrates a method for measuring these differences. It consists in scrutinizing the examination papers of students in psychology and attempting to designate the Jews and non-Jews on the basis of differences in modes of expression. Although the results are not conclusive, they are significant, especially since the author has had no special training for such judgments. Some of the points of difference considered (and these were mere "hunches") were the following: Where options are permitted, the Jew tends to select the historical rather than the technical question; is more expansive, i. e., offers more illustrative material; shows greater flexibility in style; and is more subjective in style. A number of suggestions and recommendations are offered, among which is the proper training of the observer.—M. O. Wilson (Oklahoma).

477. Spearman, C. E. The old and the young sciences of character. *Character & Pers.*, 1935, 4, 11-16.—"The net result of all these comparisons between the old method and the young would appear to be comfortable. The fundamental difference between the two has shrunk to one single point, the scientific way of estimating the degree in which two characters or other items tend to go together. Here the old method uses general impressions; the new method, statistics. But on the sole basis of this one fundamental divergence, there do indeed rise up others of amazing magnitude—enough perhaps to transform the whole of psychology."—M. O. Wilson (Oklahoma).

478. Stagner, R. Economic status and personality. *Sch. & Soc.*, 1935, 42, 551-552.—Each of 128 college students (57 girls and 71 boys) rated on a five-point scale the economic status of his family at the time of his birth, when he entered grade school, when he left grade school, and when he left high school. Each student, furthermore, filled out the forms of the Wisconsin Scale of Personality Traits. As a result of analyzing the relationship between the ratings on economic status and the personality scores, the author concludes that poverty does not improve personalities. There is evidence that the child reared in the economically less favored home tends to develop feelings of inferiority and traits of nervousness or emotionality, introversion, and social passivity or seclusiveness.—H. L. Koch (Chicago).

479. Stephenson, W. Perseveration and character. *Character & Pers.*, 1935, 4, 44-52.—So-called perseveration tests are the best tests of character known to the author. However, the author prefers to call them *p*-tests, until he knows more clearly what they

really measure. He implies that these tests are related to a broader and more important phase of personality, namely, determining tendency. A future article on the relation of determining tendency to character is promised by the author.—M. O. Wilson (Oklahoma).

480. Studman, L. G. The factor theory in the field of personality. *Character & Pers.*, 1935, 4, 34-43.—The factor technique has already yielded two unitary factors in personality, *w* (will) and *f* (fluency of responses). Knowledge of these factors can be increased by experimentation just as has been the case with *g*.—M. O. Wilson (Oklahoma).

481. Thorndike, E. L. The interests of adults. I. The permanence of interests. *J. educ. Psychol.*, 1935, 26, 401-410.—A study of (1) the permanence of an individual's interests relative to the average group interests as age increases, and (2) the permanence of an individual's pattern of interests as age increases. 191 college graduates scaled their interest in 17 activities during each decade between ages 20 and 70. Correlations between degrees of interest in specific activities at ages 20-29 and 50-59 were between .24 and .91. Correlations between an individual's interest ratings for 16 activities at age 20-29 and his ratings for the same activities at age 50-59 had a median value of .75 and a range from .54 to 1.00 (51 subjects). The reliability and validity of the measurements of interest and the correlations are discussed at length.—A. W. Melton (Missouri).

482. Toporova, M. B. [Changes of character in reactive states. Outline of a typology.] *Trud. ukr. Syezda Nevropat. Psichiat.*, 1935, 792-799.—The author established a direct dependence of characterological changes in reactive states upon the individual peculiarities of traumatic accidents provoking neuroses. Troubles of a sensitive nature are observed in cases where strong emotions of grief, sorrow, fear, etc. have taken place. The torpid (stuporous) types of reaction, the overwhelming of the patient by polymorphous traumas, was observed. The extraverted type is met with oftener in the first school age, and the introverted in adolescence.—A. Yarmolenko (Leningrad).

483. Usizima, Y. Character and time consciousness. *Jap. J. appl. Psychol.*, 1935, 3, 165-170.—In the extraverted time consciousness undergoes a certain modification, depending upon the content of the objective time element, but in the introverted such can scarcely be observed. The data concerned consist of the time judgments of 95 high school girls on intervals of bell-ringing, reading and writing.—R. Kuroda (Keijo).

484. Vernon, P. E. Can the "total personality" be studied objectively? *Character & Pers.*, 1935, 4, 1-10.—Certain American objectivists have concluded that personality is in general unorganized and unintegrated because their tests succeed in breaking up personality into bits but not in putting it together again. What is needed is a test which deals with personality as a whole, just as Gestalt psychology deals with its problems. After reviewing a few previous attempts by other psychologists to achieve this

aim, the author describes a matching experiment of his own in which promising results are obtained. Items matched are interpretative personality sketches by different judges with ratings on certain personality traits, photographs with sketches, and voice with sketches. The degree of correspondence between items matched is expressed mathematically by a contingency coefficient, for which a method has been refined by the author.—*M. O. Wilson* (Oklahoma).

485. **Zeddies, A.** *Menschenkenntnis und Menschenbehandlung.* (The knowledge and management of human beings.) Bad Homburg: Siemens, 1935. Pp. 305. RM 7.80.—This textbook opens up new paths, both in presentation and scientific method, in that totalitarian and Gestalt psychology are made the basis of the study of man. In contrast to former methods, which are more or less concerned with isolated characteristics, the Gestalt character is here discovered in the active movements of handwriting, as well as in mimetics and physiognomy. A special section is devoted to characterological typology. The conclusion of the book is devoted to the correct management of men, as deduced from the above principles.—*A. Zeddies* (Homburg).

486. **Zeddies, A., & Korff, E.** *Sind Sie Menschenkenner?* (Are you a good judge of people?) Bad Homburg: Siemens, 1935. Pp. 56. RM 1.75.—The guiding principle of this introduction to the correct observation of human beings is that we do not at first see the bodies of our fellow men, but are immediately conscious of the psychic, the character which is expressed in their external appearance. The viewpoint is that of totality. The theme is illustrated by examples of handwriting and 63 portraits.—*A. Zeddies* (Homburg).

[See also abstracts 134, 232, 319, 320, 427, 441, 520, 563, 597.]

SOCIAL FUNCTIONS OF THE INDIVIDUAL

487. **Artemov, V. A.** [Comparative legibility of the rival signs of palatalization.] In [Visual sensation and perception, vol. II]. Moscow: Gosekgiz, 1935. Pp. 246-255.—The best visual sign of palatalization for the new alphabet was sought by means of psychological investigation. The method used by the author consisted in a discrimination of three rival signs among other letters through the photo-wedge.—*A. Yarmolenko* (Leningrad).

488. **Bachmann, J.** *Das Experiment in der Graphologie.* (The experiment in graphology.) *Industr. Psychotech.*, 1935, 12, 72-79.—The author explains various limited uses of modern scientific graphology and separates different characteristics of grapho-mechanical and grapho-psychological experiments. Experimental graphology of today deals only to a certain extent with the mechanical and psychological phases. Present graphology has conducted no experiments from the psychological viewpoint. It is claimed that psychological factors must be considered, as they are often deciding elements in graphology.—*H. J. P. Schubert* (Transient Center, Buffalo).

489. **Barton, R. F.** *Tspol'zovanie mifov kak magii u gornyykh plemen Filipin.* (Use of myths as magic among Philippine mountain tribes.) *Sovetsk. Etnogr.*, 1935, No. 3, 76-95.—All the tribes use myths as magic, but in an essentially dissimilar way. Analysis of three Ifugao myths shows that their magic effect is dependent on analogies within the myth to the situation confronting the magicians today (sympathetic magic). Nabaloi and Kankanai myths are quite short as compared with Ifugao, and bear evidence of having been abridged, in some cases to the extent that they no longer make sense. The Nabaloi myths are not much more than spells or incantations, though they were evidently once as rich as the Ifugao myths. Not the analogy, but the whole myth is now magically powerful. A superficial perusal of the literature seems to the author to justify raising the question whether the magic of powerful names, of words, rhymes, formulae and spells does not universally rise with class society. The author has found no instances of this kind of magic in pre-class society.—*E. Kagarov* (Leningrad).

490. **Bryngelson, B.** *Sidedness as an etiological factor in stuttering.* *J. genet. Psychol.*, 1935, 47, 204-217.—It is argued that much of the confusion of opinion and of findings on the problem of stuttering arises from too much attention to signs and symptoms and too little to the underlying true condition. The cerebral dominance theory is stated. Tabulated findings on 700 clinical cases of stuttering reveal a higher incidence among stutterers than non-stutterers of (1) the left-eyed, (2) the ambliocular, (3) the ambidextrous, (4) mirror writers; and a higher incidence in shifted cases of other sorts of language disabilities.—*J. F. Dashiell* (North Carolina).

491. **Cantril, H., & Allport, G. W.** *The psychology of radio.* New York: Harper, 1935. Pp. x + 276. \$3.00.—The volume is divided into three parts: (1) the mental setting of radio, contains chapters on the novelty of the radio, its influence on mental and social life, ownership, programs, and the listener's tastes and habits; (2) experiments, reports work done at Harvard (with references to other laboratories) on voice and personality, sex differences in voices, the effect of physical presence, listening versus reading, and effective conditions for broadcasting; (3) practical interpretations, includes chapters on broadcasting, entertainment, advertising, education, and the extension of the social environment.—*R. R. Willoughby* (Clark).

492. **Coover, J. E.** *Principles of cognition of symbols applied to the legible recording of English.* *Psychol. Bull.*, 1935, 32, 531.—Abstract.—*J. F. Dashiell* (North Carolina).

493. **Culwick, A. T., & Culwick, G. M.** *Religious and economic sanctions in a Bantu tribe.* *Brit. J. Psychol.*, 1935, 26, 183-190.—Many customs and sanctions of native tribes which are taken by the native to have a supernatural origin, and appear to the European to be foolish superstitions, have a basis in economic necessity and may actually be of great social value. This theory is discussed with reference

to the Wabena people, who inhabit the upper end of the Ulanga valley, Tanganyika Territory.—*M. D. Vernon* (Cambridge, England).

494. **Delabarre, E. B.** A petroglyphic study of human motives. *Sci. Mon.*, N. Y., 1935, 41, 421-429.—Fourteen possible motives are mentioned to explain a rock carving.—*J. F. Dashiell* (North Carolina).

495. **Dollard, J.** Criteria for the life history—with analysis of six notable documents. New Haven: Yale Univ. Press, 1935. Pp. iv + 288. \$2.50.—Seven standards to be taken into consideration in dealing with the life history of an individual are presented by the author. The criteria are: "1. The subject must be viewed as a specimen in a cultural series. . . . 2. The organic motors of action ascribed must be socially relevant. . . . 3. The peculiar role of the family group in transmitting the culture must be recognized. . . . 4. The specific method of elaboration of organic materials into social behavior must be shown. . . . 5. The continuous related character of experience from childhood through adulthood must be stressed. . . . 6. The social situation must be carefully and continuously specified as a factor. . . . 7. The life history material itself must be organized and conceptualized." The usefulness of these standards is examined by applying them to six "notable documents" including Freud's *Analysis of a Phobia in a Five-Year-Old Boy*, Adler's *The Case of Miss R.*, and H. G. Wells' *Experiment in Autobiography*. There is a chapter containing suggestions for teachers and students on how to use the criteria in the study of life histories. In his final chapter, *Culture, Personality and the Life History*, the author discusses the inadequacies of present-day psychology and sociology and makes suggestions for "a workable psychology, that is, workable from the standpoint of systematic cultural knowledge."—*D. Shakow* (Worcester State Hospital).

496. **Doob, L. W.** Propaganda. Its psychology and technique. New York: Holt, 1935. Pp. x + 424. \$2.40.—The author presents eight principles of propaganda and twenty-eight corollaries to them. These "are intended to cover all varieties of propaganda." The validity of these principles is examined in connection with various types of propaganda such as commercial, war, Nazi, and Communist, and in relation to the vehicles of propaganda such as the newspapers, radio, and motion pictures. There is a section on *The Psychology of Living People* which lays the psychological foundation for the discussion of the nature of propaganda. Index.—*D. Shakow* (Worcester State Hospital).

497. **Drake, D.** Problems of conduct. (2nd ed.) Boston: Houghton, Mifflin, 1935. Pp. xvii + 520. \$2.75.—A revision of this standard text under the direction of H. A. Overstreet, with six concluding chapters written after the death of Drake by R. H. Finlay. The book is in four parts: the evolution of morality, including customary morality and conscience; the theory of morality, including the basis of right and wrong, duty, and character; personal

morality, including drinking, family life, truthfulness, loyalty, luxury, self-control, and happiness; and public morality, including politics, industry, justice, liberty, democracy, race and nation, peace, the church, and the future of civilization. Reading lists at the ends of the chapters, an index, and a foreword by Overstreet.—*R. R. Willoughby* (Clark).

498. **Eames, T. H.** A frequency study of physical handicaps in reading disability and unselected groups. *J. educ. Res.*, 1935, 29, 1-5.—100 cases of reading disability and an unselected group of 143 cases were studied for various sorts of ocular disability. The results indicate that the frequency of incoordination of the eyes at the reading distance, farsightedness, mixed dominance and low fusion are of more frequent occurrence in the reading disability group, while far-sighted astigmatism is more prevalent in the unselected group.—*S. W. Fernberger* (Pennsylvania).

499. **Eliasberg, W.** Ausdruck oder Bewegung im künstlerischen Schaffen? (Expression or motion in artistic productions?) *Z. Kinderpsychiat.*, 1935, 2, 83-86.—A comparison of typical drawings taken from the productions of the same individual while in a Jacksonian seizure and while in a normal state. The relation to esthetic theory is discussed.—*D. Shakow* (Worcester State Hospital).

500. **Farnsworth, P. R.** Are "music capacity" tests more important than "intelligence" tests in the prediction of several types of music grades? *J. appl. Psychol.*, 1935, 19, 347-350.—No significant differences in power to predict success either in "tonal" grades (theory of music) or in "academic" grades (history and appreciation of music) appear in comparison of intelligence tests and tests for sense of pitch and tonal memory.—*R. S. Schultz* (Psychological Corporation).

501. **Foreman, P. B.** The administration of juvenile male delinquency cases in the courts of Oregon. *J. juv. Res.*, 1935, 19, 121-127.—The author thinks there is a need for a further definition of objectives and standards for the local supervision of delinquents in Oregon; in 34 of the 36 counties this supervision is in the hands of the county judge, who frequently is not only not a lawyer but has had no training for dealing with child problems. No adequate observance has been taken, for instance, of the law's provision for differential treatment for the delinquent, dependent and psychopath. Case histories, moreover, even for those individuals committed to the state training school, have usually not been worked up.—*H. L. Koch* (Chicago).

502. **Fouche, P.** Phonétique appliquée. Quelques considérations sur l'intonations de la phrase énonciative française. (Applied phonetics. Certain considerations on intonation of the French enunciative phrase.) *Ann. Univ. Paris*, 1934, 9, 511-532.—The factors upon which depend the melody of the French enunciative phrase are various, and the question of intonation is as much psychological as phonetic, for the intellectual and the emotional elements play a decided role. That which characterizes the French language is the important place given to the melody

of the enunciated phrase, to this purely logical element, an importance which is much greater in French than in any other language.—*M. H. Piéron* (Sorbonne).

503. Garber, C. M. **Marriage and sex customs of the western Eskimos.** *Sci. Mon.*, N. Y., 1935, 41, 215-227.—Their promiscuity and frankness are biological rather than licentious.—*J. F. Dashiell* (North Carolina).

504. Greeff, E. de. **Le sentiment d'injustice subie en pathologie criminelle.** (The sentiment of injustice suffered in criminal pathology.) *Ann. méd.-psychol.*, 1935, 93, Part 1, 361-384.—The sentiment of suffering unjustly is very dangerous because it justifies the criminal in his act. A large percentage of criminals justify their crimes as being the mere retaliation for real or fancied wrongs they have suffered over a long period and never forgotten. These people are often over-conscientious in their dealings with other people, so that slight injustices against them seem more culpable. They frequently have such a high reputation in the community that their cases are dropped or they are pardoned. Paranoid personalities and early dementia praecox cases are more dangerous than advanced psychoses. After the hallucinatory voices battle among themselves and the patient becomes a mere spectator, he is no longer of any interest from the viewpoint of criminology.—*M. B. Mitchell* (New Hampshire State Hospital).

505. Greene, J. S. **Treatment of the stutter type personality in a medical-social clinic.** *J. Amer. med. Ass.*, 1935, 104, 2230-2242.—Since the opening of the National Hospital for Speech Disorders in New York City it has handled over 15,000 stutters, in addition to several thousand non-stuttering speech defectives. Most stutters are born with a highly emotionalized organic structure. Their problem is primarily one of psychological reconstruction, emotional control, and integration. Treatment is adapted to the individual and may include speech training, instruction in the anatomical and physiological functions of the vocal tract, alternating group and individual reading, psychoanalysis, club work, etc. Group treatment is emphasized.—*D. J. Ingle* (Mayo Foundation).

506. Hellpach, W. **Wirkliche Socialpsychologie.** (Realistic social psychology.) *Industr. Psychotech.*, 1935, 12, 33-41.—The author argues for the necessity of a new scientific psychological system which can be put to practical use. He emphasizes the relation of the individual to society and discourses on how to overcome the gap between them to benefit both equally. The smoothing of the relations between society and the individual is felt to be practically a necessity for the advancement of civilization.—*H. J. P. Schubert* (Transient Center, Buffalo).

507. Hill, G. E. **Educational attainments of young male offenders.** *Elem. Sch. J.*, 1935, 36, 53-58.—The educational attainment of 1500 young male offenders, inmates of the State Reformatory at Pontiac, Illinois, was studied. Four items were considered: last school grade completed and age at leaving school, achieve-

ment on the Stanford test, school experiences of a selected group, and interrelations of the preceding factors. Retardation, failure, lack of interest, and poor adjustment to the school situation were found to be outstanding characteristics in the school experience of these young men. The school's responsibility for ameliorating these conditions is discussed.—*P. A. Witly* (Northwestern).

508. Hoffmann, H. **Der Hexen- und Besessenenglaube des 15. und 16. Jahrhunderts im Spiegel des Psychiaters.** (The belief in sorcery and demoniacal possession in the fifteenth and sixteenth centuries from the psychiatric viewpoint.) Greifswald: Univ. Press, 1935. Pp. 27.—(Part 12 of the publications of the German-Nordic Society for the History of Medicine, Dentistry and the Natural Sciences.) Hoffmann's conclusions are that these beliefs were an integral part of the medieval viewpoint. The "possessed" were almost exclusively hysterical persons, who caused many trials for sorcery. The number of psychotics passively involved was very small. These trials were examples of mass suggestion and derived their special coloring from their connection with the inquisition. The modern belief in witches and possession is not an insane idea but a regression to primitive thought. A bibliography, chiefly psychiatric, is given.—*H. Hoffmann* (Greifswald).

509. Ivanov, S. V. **Ornamentika, religioznyia predstavleniia i obriady, sviazannye s amurskoi lodkoi.** (Ornaments, religious representations, and rites connected with the canoes of the Amurites.) *Sovetsk. Etnogr.*, 1935, No. 4-5, 62-84.—The longboat plays an important part in the religious rites of the Amurites, particularly in the wedding and funeral ceremonies, as well as in the public fêtes. In the primitive mentality each material object is a living thing. Thus the canoe is endowed with life, and eyes are drawn as an ornament on the prow and the stern in the form of round, black dots. A more complicated form, which has gradually replaced the circles, is represented by rosettes, crosses, squares, etc., which are always placed where the eyes should be. Also, figures of birds are sometimes found on the prow of the canoe. All these figures and drawings have a magical significance.—*E. Kagarov* (Leningrad).

510. Jones, E. **Artistic form and the unconscious.** *Mind*, 1935, 44, 496-498.—A reply to Leon's criticism of Jones' views on the unconscious.—*H. Helson* (Bryn Mawr).

511. Khudiakov, M. G. **Kultovo-kosmicheskie predstavleniia v Prikami v epokhu razlozheniia rodovogo obshchestva.** (Cultural and cosmic conceptions in the Kama region at the end of the pagan period.) *Problemy GAIMK*, 1934, Nos. 11-12, 76-97.—Archeological findings in the Kama (Volga tributary) region—metal plates, clasps, pendants, etc.—show in their form and decoration an unmistakable cosmologic and magic character. There are representations of the sun, light and darkness, heaven, the three-story plan of the universe, days and weeks, etc. Many of the cosmologic representations have an animal form, suggesting totemism. The

archeological monuments often show repetitions of various elements and thus furnish valuable material for the study of primitive mathematics and astronomy.—*E. Kagarov* (Leningrad).

512. **Kinberg, O.** *Varför bli människor brottsliga? Kriminalpsykologisk studie.* (Why do human beings become criminal? A criminal-psychological study.) Stockholm: Natur og kultur, 1935. Pp. 134.—The writer of this monograph is well known to Scandinavian readers from his book, *Aktuella Kriminalitetsproblem* (1930). The present treatise deals in a systematic way with the various individual, social, etc., causes for criminal deeds.—*M. L. Reymert* (Mooseheart Laboratory for Child Research).

513. **Klages, L.** *Graphologie.* (Graphology.) (2nd ed.) Leipzig: Quelle & Meyer, 1935. Pp. 89 + 81 specimens of writing. RM. 1.80.—A comprehensive exposition of the field, outlining its fundamental concepts and methods of application. Illustrated with numerous examples, the book aims to familiarize the reader with what is significant as data in the interpretation of physiognomic movements.—*L. Klages* (Zürich).

514. **Krausz, E. O.** *Psychology and morals.* *Int. J. indiv. Psychol.*, 1935, 1, 51-69.—A psychological consideration of the factors which make for normal, successful and contented social adjustment. A clear presentation of individual-psychological aims and methods, although in a rather polemic vein.—*O. N. de Weerdt* (Beloit).

515. **Kroeber-Keneth, L.** *Die Leserlichkeit der Handschrift. Ihr gesellschaftlicher und einzelspsychologischer Sinn.* (The legibility of handwriting; its meaning for society and individual.) *Industr. Psychotech.*, 1935, 12, 130-137.—Handwriting has characteristics of collective and individual values. Clearness and standardization are important factors for determining psychological characteristics. These elements are significant for the individual's relation to society and its demands.—*H. J. P. Schubert* (Transient Center, Buffalo).

516. **Krogbeumker, M.** *Hat die Menstruation einen Einfluss auf die Kriminalität der Frau?* (Does menstruation have an influence on criminality in women?) Düsseldorf: Schmitz, 1935. Pp. 23.—*R. R. Willoughby* (Clark).

517. **Leux, I.** *Individualpsychologische Untersuchungen über akustisch-sensorische und -motorische Funktionen. Ein Beitrag zur Analyse der Musikalität.* (Studies in individual psychology on the acoustico-sensory and acoustico-motor functions. Contribution to the analysis of musical aptitude.) *J. Psychol. Neurol., Lpz.*, 1933, 45, 450-532.—*R. R. Willoughby* (Clark).

518. **Levy-Bruhl, L.** *La mythologie primitive. Le monde mythique des Australiens et des Papous.* (Primitive mythology. The mythical world of the Australians and the Papuans.) Paris: Alcan, 1935. Pp. 334. 40 fr.—The author studied a certain number of selected myths of so-called primitive societies, not from the point of view of the history of these religions

or of sociology but solely in respect to their relation to nature and to the fixed orientation of the particular mentality of these primitive people. He treats these myths solely from the point of view of environment. The author chose the myths of Australia and New Guinea, not because the people were the most primitive but because his study was facilitated by the abundance and exceptional quality of the collected data. The book contains eight chapters. First he treats the mythical world and mythical beings, half animal, half human. Then he describes the myths which involve totemism and consanguinity, showing their power and effect. He emphasizes the participation-imitation aspect of these myths and its utilization in therapeutics. The persistence of the mythical world and its relation to folk-lore (illustrated with a number of examples) furnish the material for the last three chapters. The author gives no bibliography but does give many footnotes.—*M. H. Piéron* (Sorbonne).

519. **Lévy-Valensi, J.** *L'inspiration poétique et la psychopathologie.* (Poetic inspiration and psychopathology.) *Hyg. ment.*, 1935, 30, No. 2, 21-42.—Poetic inspiration obeys the same laws as certain morbid manifestations, such as mania, schizoid states, and especially melancholia.—*M. H. Piéron* (Sorbonne).

520. **Ligon, E. M.** *The psychology of Christian personality.* New York: Macmillan, 1935. Pp. x + 393. \$3.00.—The teachings of Jesus contained in the Sermon on the Mount are examined for their psychological validity. In terms of mental hygiene they encourage successful attitudes in living. Their effect is to remove fear, hatred, and inferiority, and interpreted in modern language, to promote an integrated "Christian personality."—*H. D. Spoerl* (Northeastern).

521. **Lindgren, E. J.** *Field work in social psychology.* *Brit. J. Psychol.*, 1935, 26, 174-182.—Discusses the importance for the field worker in social psychology and anthropology of: (1) a training in both psychology and anthropology, (2) theoretical and practical training in the observation of the behavior of groups of people, (3) adaptation of the worker's personal behavior to the manners and customs of the group studied, (4) memory training and the use of mnemonics in remembering material to be recorded later.—*M. D. Vernon* (Cambridge, England).

522. **Lowie, R. H.** *The Crow Indians.* New York: Farrar & Rinehart, 1935. Pp. 273. \$4.00.—*R. R. Willoughby* (Clark).

523. **Mack, D.** *Psychological and emotional values in C. W. A. assignments: a study of sixty-one families on relief before and after C. W. A.* *Social Serv. Rev.*, 1935, 9, 256-268.—*R. R. Willoughby* (Clark).

524. **Manzer, C. W., & Marowitz, S.** *The performance of a group of college students on the Kwalwasser-Dykema music test.* *J. appl. Psychol.*, 1935, 19, 331-346.—500 college men and women tend to score higher and to show less variability than children. Statistically significant differences favoring

women were found on tests for tonal movement, pitch imagery and rhythm imagery, and on the total score. Scores for men were more variable than for women.—*R. S. Schultz* (Psychological Corporation).

525. **Monroe, M.** **Diagnosis and treatment of reading disabilities.** *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 201-228.—It is estimated that 12% of the school population is decidedly retarded in reading. The diagnosis of a case of reading disability should include consideration of information dealing with the child's development, medical and social history, physical examination and a psychological examination involving intelligence and achievement tests, an analysis of reading errors and the use of a battery of tests to indicate deficiencies in visual and auditory discrimination, motor control, handedness, eye preference, vocabulary and articulation. Remedial methods should consider treatment for improving the mechanics of reading, the correction of vowel and consonant errors, the additions and omissions of words, reversals, repetitions, substitutions, and deficiencies in silent reading, while attention should be paid to methods of locating specific assignments, of reading for a specific purpose, of reading for recall and of reading for appreciation.—*P. S. de Q. Cabot* (Harvard).

526. **Morita, T.** **The order of handwriting of uneducated children.** *Jap. J. appl. Psychol.*, 1935, 3, 171-176.—The hand movement in preschool children observed from their reproduction of a cross inclined 45 degrees goes from above to below, from left to right and from outside to inside. This indicates an exact coincidence with the sequence of strokes of Chinese characters when they are written.—*R. Kuroda* (Keijo).

527. **Niedenthal, L.** **Zur Kriminalpsychologie des Diebstahls.** (The criminal psychology of theft.) Düsseldorf: Ges. f. Buchdr. u. Verl., 1934. Pp. 24.—*R. R. Willoughby* (Clark).

528. **Ortmann, O.** **Notes on recent music research.** *Proc. Music. Teach. nat. Ass.*, 1934, 94-108.—Report of miscellaneous data recently secured in the Research Department of the Peabody Conservatory of Music. Topics considered are (1) characteristics of piano tone quality, (2) individual differences in violin tone quality, (3) attributes of good voice quality, (4) typical errors in ear dictation, and (5) some general principles of physiological movement in instrumental and vocal technique.—*P. R. Farnsworth* (Stanford).

529. **Ortmann, O.** **Problems in the elements of ear dictation.** *Res. Stud. Music, Peabody Inst.*, 1934, No. 2.—Essentially a study of the errors found in ear dictation. These errors occur in the fields of rhythm, harmony and melody, and are more often visual than auditory. Ear-dictation reaction is distinctly subject to training.—*P. R. Farnsworth* (Stanford).

530. **Potapov, L. P.** **Sledy totemisticheskikh predstavlenii u altaicev.** (Remains of totemistic representation in the Altaians.) *Sovetsk. Etnogr.*, 1935, No. 4-5, 134-152.—The most widely spread totems among the Altaians were beasts with fierce horns: the

elk, stag, goat, and ram. In the beginning the stag was considered by the Altaian tribes as the ancestor of a given family group. Little by little it came to be regarded as the ancestor of the clan shaman, and the spirit of the shaman was incarnated in the form of the stag. When the horse had taken the place of the stag in the economic life of the Altaians, the interpretations of the long drum of the shaman as a reindeer gave way to its explanation as a saddle-horse. Thus the totem first represented the spirit of the tribal ancestor, then the spirit of the ancestor of the shaman, and finally the shamanic spirit in general. These spirits were gradually anthropomorphized and finally became the divinities of the entire tribe.—*E. Kagarov* (Leningrad).

531. **Preston, K. A.** **The speed of word perception and its relation to reading ability.** *J. gen. Psychol.*, 1935, 13, 199-203.—The purpose of the investigation was to determine the reliability of a method of measuring speed of word perception, to discover the difference in perception speed of familiar and unfamiliar words of equal length, and to study the relation between speed of word perception and reading ability. There was a significant difference between the time to perceive familiar and unfamiliar words. Both the familiar and unfamiliar word-perception speeds were related to speed of reading and to vocabulary knowledge.—*H. Cason* (Wisconsin).

532. **Roback, A. A. I. L. Peretz.** **Psychologist of literature.** Cambridge, Mass.: Sci-Art, 1935. Pp. 457. \$2.50.—Besides being the first complete biography of Peretz in any language, there is a psychographic, critical and psychological discussion of "the greatest literary figure in modern Jewry."—*D. Shakow* (Worcester State Hospital).

533. **Robinson, H. M.** **Science versus crime.** Indianapolis: Bobbs-Merrill, 1935. Pp. 303. \$2.50.—*R. R. Willoughby* (Clark).

534. **Ruml, W.** **Ähnliche Handschriften.** (Similar handwritings.) *Arch. Kriminol.*, 1935, 97, 38-44.—Ruml cites evidence to show that the underlying causes of familial, school and geographical similarities of handwriting are still unexplained and puzzling discrepancies exist. There are also no pathognomonic characteristics of any particular script, in the sense that finger prints are specific. The causes of familial resemblances are the most obscure, and family influences, social, cultural and intellectual, may be more influential than school training, particularly if the parents correct the child's writing. On the other hand, the scripts of identical twins who have had the same education and environment may be totally unlike. The writing of unrelated persons, separated geographically and of different character and schooling, may be similar. Some likenesses are due to conscious imitation. Furthermore, the number of possible variations consistent with legibility is limited.—*M. E. Morse* (Baltimore).

535. **Schoen, M.** **The basis of music-mindedness.** *Musical Quart.*, 1935, 21, 348-355.—When a musical form "becomes significant in itself as a form, the experience is esthetic." When a musical form "be-

comes significant not in itself, but for some extraneous cause, such as a flow of ideas prompted by it, or a sequence of pleasant pictures, day-dreams, or reminiscences, the experience is non-esthetic." Schoen believes that he has discovered a high correlation to exist between form-mindedness (esthetic responsiveness) and sensitivity to musical material. As he believes the latter to rest upon innate powers, he concludes that form-mindedness is also a matter of nature, not nurture.—*P. R. Farnsworth* (Stanford).

536. **Schwegmann, R.** *Experimentelle Untersuchung zur Lesbarkeit von Fraktur und Antiqua und von Gross- und Kleinschreibung.* (An experimental study of the legibility of German and Roman type, large and small.) *Untersuch. Psychol. Phil. Pädag.*, 1935, 9, No. 4. Pp. 48.—In the first part of the study the legibilities of meaningful and meaningless text in German and Roman character were compared and words were presented tachistoscopically. With meaningful material and the introduction of another task (calculation) between readings, German was found to be 2.5 to 12% superior to Roman; without the calculation, 4.3%. With the more difficult tachistoscopic presentation the German turns out to be 25 to 30% better than the Roman. In the second part of the experiment it was shown that large type led to a better appreciation of the grammatical parts of sentences, and the effect was greater with the German than the Roman.—*R. Schwegmann* (Essen).

537. **Seth, G., & Guthrie, D.** *Speech in childhood; its development and disorders.* London: Oxford Univ. Press, 1935. Pp. x + 224. \$3.50.—This book is intended primarily for medical practitioners and psychologists. The authors suggest, however, that it will be found of value to parents, teachers, and all who are interested in speech development in the child. The first section of the book deals with the nature and development of speech, and with the speech function in its main aspects. It contains chapters on the speech mechanism, speech and the brain, speech sounds, the psychology of speech, and the development of speech in children. In the second section the authors discuss the influence of defective hearing upon speech development; the commoner speech disorders—"lalling," nasal speech, and stuttering—are described; there is a chapter which deals with the disorders of phonation, or defects of voice, in childhood; and finally, a chapter summarizing the fundamental principles of prevention and treatment of speech defects, including suggestions for the organization of speech clinics. The book contains 46 illustrations and a bibliography of 47 titles.—*C. V. Hudgins* (Clarke School).

538. **Sheldon, H. D.** *Problems in the statistical study of juvenile delinquency.* *Metron*, 1934, 12, 201-223.—Combinations and eliminations from the 252 census tracts for the Cleveland metropolitan area for 1930 left 184 tracts, for each of which six indexes were computed: for male delinquency, home ownership, equivalent rental, dependency, unemployment, and native parentage. Inter-tract correlations between delinquency and the other five variables ranged

in absolute value from .51 to .75, with a multiple r of .84. Multiple r of delinquency with home ownership and rental was .80. With other factors held constant, no consistent difference in delinquency was observed between "interstitial" and "non-interstitial" tracts. Recidivism appeared to be a relatively constant element in offenses, so it made little difference whether delinquency rates were computed in terms of boys or in terms of offenses. Delinquency rates computed from total offenses, offenses against property, and group offenses showed intercorrelations higher than .90. A small proportion of families contributed a large proportion of offenses. Seven conclusions as to methodology are presented.—*P. J. Rulon* (Harvard).

539. **Simon, T.** *Test de compréhension de lecture.* (Test of the understanding of reading.) *Bull. Soc. A. Binet*, 1935, 35, 308-309.—The tests are planned to determine whether the child understands what he reads and to reveal individual differences. In contrast with the American silent reading tests, the present ones do not involve speed. The tasks are composed of easily understood material presented in the form either of pictures or of narration. The time is not limited, although it is recorded by the experimenter. The author has constructed two comprehension tests with pictures. One, composed of 15 successive texts, is for children 8-16 years old; the second includes only 10 tasks for children from 9-18 years. Standards are given for each age and for each educational level. A third collection of 24 tests without pictures is described and the standards are given.—*M. H. Piéron* (Sorbonne).

540. **Takase, Y., & Komatu, T.** *The intelligence and the character of repeated offenders.* *Jap. J. appl. Psychol.*, 1935, 3, 479-513.—Though the intelligence of repeated offenders is lower than that of normals, it is not certain how it is when compared with the intelligence level of working classes as poor as themselves. It is also not certain whether it is due to age or to repeated offense that the standing on intelligence tests tends to become lower with the increasing age. Little can be said with certainty concerning change of character, though some experimental data were obtained.—*R. Kuroda* (Keijo).

541. **Tilson, L. M.** *The music achievement of college students at various levels of music talent and psychological rating.* *Teach. Coll. J., Ind.*, 1935, 6, No. 5, 169-176.—"One hundred per cent of the students with music talent and psychological rating in the lowest quarter will make grades in ear training and sight singing below the median. It can also be predicted that the average scholarship index of these students will be . . . seven points lower than that required for permission to take supervised teaching in the training school. . . . Almost nine out of ten students whose music talent score is in the lowest quarter will make grades below the median regardless of their psychological percentile."—*P. R. Farnsworth* (Stanford).

542. **Voelker, C. H.** *A new sound count for logopedists.* *Ann. Otol., etc., St. Louis*, 1935, 44, 260-263.—A sound count table is presented, based

on the speech used on 5946 announcements from radio stations.—D. J. Ingle (Mayo Foundation).

543. Wintch, J. **Le dessin comme témoin du développement mental.** (Drawing as an index of mental development.) *Z. Kinderpsychiat.*, 1935, 2, 69-83.—The final installment of an article on the use of drawing as a test of intelligence. Numerous examples of productions by normal and abnormal children are presented.—D. Shakow (Worcester State Hospital).

544. Young, K. **Source book for sociology.** New York: Amer. Book Co., 1935. Pp. 639. \$3.50.—R. R. Willoughby (Clark).

[See also abstracts 55, 101, 136, 318, 322, 324, 332, 360, 361, 362, 366, 387, 394, 407, 433, 434, 476, 485, 486, 555, 593, 594, 607, 618, 624, 625, 626, 670.]

INDUSTRIAL AND PERSONNEL PROBLEMS

545. [Anon.] **Die Eignungsprüfungen in der öffentlichen Verwaltung der Vereinigten Staaten.** (Civil service examinations in the United States.) *Industr. Psychotech.*, 1935, 12, 87-93.—The discussion includes such points as the origin and methods of civil service examinations, together with their use and value in the United States. Illustrations of American methods are given.—H. J. P. Schubert (Transient Center, Buffalo).

546. [Anon.] **Die gesundheitliche Bedeutung der Lärmbekämpfung.** (Hygiene implications of the anti-noise campaign.) *Industr. Psychotech.*, 1935, 12, 186-189.—The human ear is a sensitive organ and responds to impulses of the finest kind. Noise not only disturbs the ear, but also jars the nervous system. The net result is a decrease in output. Mechanical noises made by products of advanced civilization are nerve-wrecking features of big cities. The author emphasizes the need of stopping these mechanical noises by contrasting them with the rhythm and multi-tone of nature, which seems to produce no ill effects.—H. J. P. Schubert (Transient Center, Buffalo).

547. Brown, S. H. **Detection of incompetent drivers. Preliminary report.** *Psychol. Bull.*, 1935, 32, 528.—Abstract.—J. F. Dashiell (North Carolina).

548. Carrard, —. **Zur Psychologie der Führung in den Betrieben.** (The psychology of leaders in industry.) *Industr. Psychotech.*, 1935, 12, 161-167.—The author explains how the work in a factory can be organized so as not to interfere with individual characteristics and be upset by individual faults. Absolute confidence of the employer in the employee and vice versa is necessary to gain maximum results for both. For the smooth functioning of a concern, certain psychological principles must be followed. The executive must furnish an example of good character to his fellow workmen. The author emphasizes the fact that all scientific and practical psychological methods must be used to maintain a successful concern.—H. J. P. Schubert (Transient Center, Buffalo).

549. Giese, F. **Typenversuch für Verkaufspersonal.** (Type tests for salespeople.) *Industr. Psychotech.*, 1935, 12, 102-130.—The author illustrates and explains a psychological test to determine the individual characteristics of various types of salespeople. He has the subject arrange a display board of different products. From the results of such an arrangement he classifies the subject according to the mode of the arrangement. Time, manner of handling goods, and verbalization are also taken into consideration in determining the character of each individual.—H. J. P. Schubert (Transient Center, Buffalo).

550. Clark, G. Y., & South, E. B. **Some suggestions for measuring nursing aptitude.** *Amer. J. Nurs.*, 1935, 35, No. 9. Pp. 7.—408 students in 9 schools of nursing were given the Ohio State University psychological examination. On the basis of the scores on this test, the students were divided into 4 groups. Comparing those students who took the state licensing examination, the majority of failures were found to occur in groups C and D (lowest scores); the students of group B were more successful than the A group. Personality difficulties were found in all groups. Students in groups A and B tend to evidence a greater dislike for nursing than those in groups C and D.—R. Goldman (Clark).

551. Davis, H. N. **The science of studying human beings.** *Sci. Mon.*, N. Y., 1935, 41, 454-457.—Some tests of vocational aptitude are described by an engineer.—J. F. Dashiell (North Carolina).

552. De Wick, H. N. **The relative recall effectiveness of visual and auditory presentation of advertising material.** *J. appl. Psychol.*, 1935, 19, 245-264.—This study is based on 70 college students, and indicates that auditory presentation of advertising copy is distinctly superior to visual presentation when tested by the recall of products and trade names after delay periods of from five days to five months. The results for immediate recall and recall at 24 hours are not clearly different, and show only slight trends favoring auditory presentation. Recall of ideas expressed in the advertising copy is distinctly superior in the auditory presentation.—R. S. Schultz (Psychological Corporation).

553. Diamond, S. **The economic position of the psychologist.** *Psychol. Exch.*, 1935, 4, 5-8.—There is a need for psychological service far in excess of the expressed "demand."—J. F. Dashiell (North Carolina).

554. Engel, W. **Zur Psychologie der Mahnung.** (On the psychology of warning.) *Industr. Psychotech.*, 1935, 12, 54-56.—The article deals with the reaction of people to direct and indirect demands for payment. Direct demand for dues was made of 7,000 members of certain organizations and indirect demand of 30,000 persons. Illustrations of the results are given. In each case the peak of the responses occurs within the first three days. On the fourth day a definite decrease is already noticeable. The author indicates that these methods and results are valuable to industrial concerns as means of ascertaining the

probable responses to payment warnings.—H. J. P. Schubert (Transient Center, Buffalo).

555. Frycz, S. **Krótki zarys podstaw psychochorezjologii wraz z próbą określenia typów regionalnych i zastosowanie do nich orzeczeń psychochorezjologicznych.** (A brief outline of the fundamentals of psychochoreziology and an attempt to describe regional types with an application of psychochoreziologic principles to these types.) *Psychometria*, 1935, 2, 335-346.—Psychochoreziology, a term invented by the author, is the science of vocational guidance based not only on a psychological analysis of the individual and various occupations, but also on racial, regional and social considerations. This article contains an outline of psychochoreziologic methods, problems and terminology. Differences in the psychology and living conditions in various parts of the country (Poland) are briefly indicated as examples of results that can be obtained with the author's research methods.—Z. Piotrowski (Columbia).

556. Geiger, E. **Zur Psychomotorik der Konstitutionstypen bei industriellen Hämmerarbeiten.** (Psychomotor aspects of constitutional types in industrial hammer work.) Würzburg: Triltsch, 1935. Pp. 88. RM. 3.60.—R. R. Willoughby (Clark).

557. Granada, A., & Anyó, J. **Els defectes físics en l'individu.** (The physical defects of the individual.) *Rev. Psicol. Pedag.*, 1935, 3, 42-56.—A statistical analysis of the physical defects of 5759 persons examined at the medico-anthropological laboratory of the Catalan Psychotechnical Institute.—M. E. Morse (Baltimore).

558. Grünwald, M. **Gesteigerte Verantwortung des Kraftwagenführers für seinen Gesundheitszustand.** (Increased responsibility of automobile drivers in regard to their health.) *Industr. Psychotech.*, 1935, 12, 56-60.—The author emphasizes the fact that motor vehicle operators should be in good physical and mental health. He advocates a strict physical and psychological examination for operators, the results of which should be recorded for reference in case of accidents.—H. J. P. Schubert (Transient Center, Buffalo).

559. Hoppock, R. **Job satisfaction.** New York: Harper, 1935. Pp. xxi + 303. \$3.50.—The survey included questionnaire and interview of 309 of the 351 employed adults contacted in a typical community. Data on 500 teachers in 51 urban and rural communities who estimated the degree of their satisfaction with their jobs indicated relationships between job satisfaction and emotional adjustment, religion, social status, interest, age, fatigue, size of community, and other factors. The results suggest that the proportion of dissatisfied workers is probably less than a third. Satisfaction is tentatively defined; its measurement and theoretical implications are considered. Records gleaned from interviews of 20 employed and 20 unemployed persons (age range 20 to 70 years, earnings \$780 to \$10,000) are briefly sketched. Earnings and 22 other factors are considered as they are related to job satisfaction. Sixteen investigations of a quantitative nature are reviewed

and relations examined. A bibliography of 105 titles is appended.—R. M. Bellows (U. S. E. S., Div. Standards and Research).

560. Klein, C. **Beleuchtung und Leistung.** (Illumination and performance.) *Industr. Psychotech.*, 1935, 12, 79-82.—Methods for the determination of the quality of factory illumination are discussed. Particular reference is made to the scientific experiments conducted in the ultra-modern laboratories of Zeiss Ikon, Berlin. Especially constructed instruments are used to determine the right quality and quantity of illumination for maintaining maximum output.—H. J. P. Schubert (Transient Center, Buffalo).

561. Klein, C. **Prüfverfahren für Strassenbeleuchtungsanlagen.** (Tests of street illumination.) *Industr. Psychotech.*, 1935, 12, 97-101.—Klein describes an apparatus used to measure the light sensitivity of the human eye. An experiment on the efficiency of street illumination was undertaken. Such points as the effect of intensity, visual angle and fusion on nocturnal visibility on the road were especially emphasized.—H. J. P. Schubert (Transient Center, Buffalo).

562. Klein, C. **Blendung und Signalwesen.** (Glare and signal lights.) *Industr. Psychotech.*, 1935, 12, 182-185.—Tests of glare were made to determine its effects on the perception of colored signal lights. The time for the perception of color is variously lengthened when white lights are presented under several conditions. Practical applications of the results are not possible at the present stage.—H. J. P. Schubert (Transient Center, Buffalo).

563. Kowalski, W. **O pracy niecierpliwej.** (Work done impatiently.) *Psychometria*, 1935, 2, 325-334.—The psychological conditions of work causing, or performed with, a feeling of impatience and irritability were studied by means of a verbal questionnaire (interview). 39 persons of various occupations and intellectual levels were interviewed. Impatient work seems to be only an instance of the person's general tendency to irritability, sensitivity and feeling of insecurity. There is a French summary.—Z. Piotrowski (Columbia).

564. Krause, E. **Der Weg zur Leistung.** (The path to success.) *Industr. Psychotech.*, 1935, 12, 49-53.—Success of the average person depends on (1) the selection of a suitable profession, and (2) the maintenance of optimal working conditions. The former is dependent on the determination of the aptitudes and personality of the individual. The latter involves the elimination of fatiguing situations through controlled work and rest and the establishment of good working environment.—H. J. P. Schubert (Transient Center, Buffalo).

565. M., G. **Kampf dem Lärm.** (Fighting noise.) *Industr. Psychotech.*, 1935, 12, 157-159.—Advanced civilization brought with it mechanical noises, which must be eliminated by modern science and technology to reduce hazard. 60 to 80% of the population at present have ear trouble caused by mechanical noise.

Devices are now on hand to measure and combat noise.—*H. J. P. Schubert* (Transient Center, Buffalo).

566. **Missbach, G. Bremsen oder Ausweichen? Experimentelle Verhaltensstudien auf dem Kraftwagen.** (To stop or to pass? Experimental studies on motor vehicles.) *Industr. Psychotech.*, 1935, 12, 137-148.—The reaction times of motor vehicle drivers when stopping and avoiding an obstacle are measured accurately on normal runs. Speed, attention ability of the operator, and the use of signal devices are taken into consideration. Missbach finds that reactive time may vary from 1.4 to 2 seconds, without any indication of carelessness. The curvature of the line followed in making a sudden turn is dependent upon the type of motor vehicle used. The results permit the ready location of danger zones, thus pointing to methods of accident prevention.—*H. J. P. Schubert* (Transient Center, Buffalo).

567. **Müller, H. Reichsberufswettkampf und Eignungsuntersuchung.** (The vocational contest and investigation of ability.) *Industr. Psychotech.*, 1935, 12, 156-157.—This article compares the results of the 1933 vocational competition and previously given psychological aptitude tests.—*H. J. P. Schubert* (Transient Center, Buffalo).

568. **Opitz, F. Arbeitstechnische Untersuchung des Maschineschreibens.** (Psychotechnical investigation of typewriting.) *Industr. Psychotech.*, 1935, 12, 82-87.—Tests were made to determine the best mechanical construction of typewriters. Individual differences in ability of typists were investigated. Special emphasis is placed on the mechanical construction of typewriters to give the greatest possible speed in typewriting.—*H. J. P. Schubert* (Transient Center, Buffalo).

569. **Paulick, H. Brems- und Ausweichversuche beim Radfahren.** (Investigations of stopping and obstacle avoidance in bicycling.) *Industr. Psychotech.*, 1935, 12, 167-175.—An experiment was undertaken to determine the effects of various factors upon the speed of stopping when riding a bicycle. The average reaction time to an expected visual or auditory signal is 0.75 seconds. When a signal is given unexpectedly the reaction time is increased up to 1.7 seconds; surface of highway and ability also play a part. Further investigations were made on the mode of avoiding an obstacle as dependent upon the ability of the rider and the characteristics of the road surface.—*H. J. P. Schubert* (Transient Center, Buffalo).

570. **Pressel, E. Aufgaben der Fähigkeitsauslese der Gefolgschaft in Eisenhüttenwerken.** (Problems of aptitude testing of steel mill workers.) *Industr. Psychotech.*, 1935, 12, 148-157.—The article consists of a discussion of the problems encountered in steel mill personnel management. The methods and cautions pertaining to employee selection, transfer and training are touched upon. The development and use of aptitude tests are strongly urged.—*H. J. P. Schubert* (Transient Center, Buffalo).

571. **Richter, W. Psychologische Untersuchung praktischer Intelligenz.** (Psychological investigation of practical intelligence.) *Industr. Psychotech.*, 1935, 12, 42-48.—The author says that practical intelligence tests are absolutely necessary for technical professions. He emphasizes seven general rules which should be followed in order to make such a test practical for general use. The specific test described consists of diagrams of water systems, which are to be solved in much the same way as a maze. The author gives rating scales of work manner, personality, and general conduct based upon the performance in the tests.—*H. J. P. Schubert* (Transient Center, Buffalo).

572. **Schlenger, K. Pneumographische Studien zur Atmung der Blasinstrumentalisten.** (Pneumographic studies of the breathing of wind-instrument players.) *Psychotechn. Z.*, 1935, 10, 35-49.—By means of a series of thoracic and abdominal breathing curves, the author demonstrates how the pneumograph may be used to study the breathing of players of various brass and wood-wind instruments. It is shown how by employing breathing curves incorrect breathing may be located and combated. Several typical and atypical curves of the breathing of flute, oboe and tuba players are given.—*C. Burri* (Chicago).

573. **Schoene, G. Beförderung und Vorgesetztenauselese.** (The advancement and selection of executives.) *Industr. Psychotech.*, 1935, 12, 175-182.—In order to be considered for advancement an individual must possess in addition to excellent administrative ability such characteristics as the ability to inspire confidence, to gain cooperation, and to impart a good working spirit. Excellent methods of selecting individuals for advancement are on hand today and should be used extensively. These methods include the personal questionnaire, the employment record, and psychological tests.—*H. J. P. Schubert* (Transient Center, Buffalo).

574. **Schultz, R. S., & McFarland, R. A. Industrial psychology in the Soviet Union.** *J. appl. Psychol.*, 1935, 19, 265-308.—A report of scientific studies in Russian journals covering such topics as: early viewpoints in industrial psychology, the Central Institute of Work and the development of a new viewpoint in industrial psychology, the study of occupations and the trend toward industrial training, women in industry, wages and advancement, attempts to eliminate fatigue in work, motivation of workers, the training of psychotechnicians, the psychologist in the Soviet state. A bibliography of 15 references is appended.—*R. S. Schultz* (Psychological Corporation).

575. **Ueno, Y., Suzuki, S., Isii, S., Matui, S., Kubo, Y., Koga, Y., & Kisimoto, S. Outline of the present applied psychology.** *Jap. J. appl. Psychol.*, 1935, 3, 203-366.—Recent studies in industrial psychology (Ueno), the present state of vocational guidance in Japan (Suzuki), recent tendencies in criminal psychology (Isii), psychological aspects of new movements in physical education (Matui), various tests for school children (Kubo), the validity of tests and the analysis of factors (Koga), and a

catalogue of books on applied psychology in Japan (Kisimoto) are included.—R. Kuroda (Keijo).

576. Uhrbrock, R. S. A psychologist looks at wage-incentive methods. *Inst. Mgmt Ser.*, 1935, No. 15, 1-32.—That incentive methods are inadequate when used by themselves is suggested by this study of the history of the attitudes and opposition of workers toward them. A supplemental one-year, twelve-point program is presented. This includes: psychological tests of mechanical skill, mental alertness, emotional stability, and interests; survey of illumination; temperature and humidity changes related to output fluctuations; confidential attitude interviews; analysis of daily production curves; rest pauses, and micro-motion studies of work methods. A discussion of the problem by C. E. French is appended.—R. M. Bellows (U. S. E. S., Div. Standards and Research).

[See also abstracts 88, 220, 265, 266, 269, 613, 621, 645.]

EDUCATIONAL PSYCHOLOGY

577. Almack, J. C., & Staffebach, E. H. An experimental study of individual improvement in spelling. *J. educ. Res.*, 1935, 29, 6-11.—The authors set themselves three problems: (1) to discover words which pupils were able to use but not to spell; (2) to set conditions for mastery by each pupil of the spelling of the words in his own active vocabulary; and (3) to check the effects of this learning. The subjects were 104 7th-grade pupils in a junior high school in San José, California. They were tested with a prepared list of 500 selected words for diagnosis of each student's individual spelling deficiencies. The misspelled words were studied during the regular spelling times over a two-weeks period. The checking was accomplished by study of three compositions from each pupil, which were compared with another set of themes written before the training. This method indicates that great improvement was effected by the training, and the authors believe that this improvement will be of a permanent character.—S. W. Fernberger (Pennsylvania).

578. Anderson, A. C., Dockeray, F. C., Hartson, L. D., Porter, J. P., Smith, J. J., Stogdill, E. L., & Arnold, H. J. Symposium on the improvement of psychology teaching. *Psychol. Exch.*, 1935, 4, 9-17.—J. F. Dashiell (North Carolina).

579. Anderson, J. E. The effect of item analysis upon the discriminative power of an examination. *J. appl. Psychol.*, 1935, 19, 237-244.—Item analysis of an English test reduces to one-third the length of the original examination and gives an equal or superior prediction correlation with criteria.—R. S. Schultz (Psychological Corporation).

580. Awaji, Y. The private plan of guidance for university students. *Jap. J. appl. Psychol.*, 1935, 3, 473-478.—R. Kuroda (Keijo).

581. Barr, A. S. Expressing the scientific spirit through better supervision. *J. educ. Res.*, 1935, 29, 47-52.—Outline of the principles of good supervision

as one approach to scientific thinking about the problems of education.—S. W. Fernberger (Pennsylvania).

582. Barr, A. S. The training of research workers. *J. educ. Res.*, 1935, 29, 90-93.—More careful selection of research workers, better training and a different point of view are necessary for improvement in educational research. Courses for this training are indicated. Up to this time too much emphasis has been placed on training in computation and not enough on the logic of research.—S. W. Fernberger (Pennsylvania).

583. Birnbaum, F. The individual-psychological experimental school in Vienna. *Int. J. indiv. Psychol.*, 1935, 1, 118-124.—An attempt was made in one of the regular public schools of Vienna, by permission of the board of education, to apply "sound psychological principles" to the education process. The program involved the directly conscious, as well as incidental, development of individuality and self-dependence, along with sociality and cooperation. Instruction was presented on a "truly inner developmental basis" rather than according to criteria of objective progression. Self-confidence and "inner training" (attitudes?) are considered more important in education than are special talents and skills.—O. N. de Weerd (Beloit).

584. Blatz, W. E., Millichamp, D., & Fletcher, M. Nursery education. New York: Morrow, 1935. Pp. xv + 365. \$3.50.—The theory of education practiced in St. George's School (Toronto) stresses the principles of serenity, understanding, and non-interference. The aim is to form an individual who will willingly accept the consequences of his behavior. The learning environment is arranged so that these consequences will be consistent, and so that there is rich opportunity for experiment and social experiences. The problem of motivation is one of limiting and fostering interests rather than of originating them. The child's day is divided between routine and free activity. In the one emphasis is placed upon self-control; in the other opportunity is given for self-expression. In this book the day's program and the theory underlying each element of it are explained in detail. Examples of record cards show how each situation is handled. In planning the play activity the stage must be set so that when the child is left free he will be led to indulge in activity of the desired kind. This principle is applied to the choice of play equipment, and to story telling and music. Organized play forms only a small part of the program and adult control is indirect and reduced to a minimum. The organization of the parent group is explained, and also the health program, with diet lists and menus.—M. P. Montgomery (Faribault, Minn.).

585. Boynton, P. L., & Parsons, R. F. Pupil analyses in the Peabody Demonstration School. *Bull. Peabody Coll. Teach.*, 1935, 24, No. 9. Pp. 63.—Presents reproductions of record forms used in the Peabody demonstration school to preserve the results of mental, educational and physical testing of pupils. Presents also somewhat detailed analysis of the testing programs, and the conclusions regarding the standing

revealed. A section is devoted to special case studies of problem pupils and a presentation of the special remedial work undertaken in their behalf.—*L. A. Averill* (Worcester Teachers College).

586. **Brownell, W. A., & Chazal, C. B.** The effects of premature drill in third-grade arithmetic. *J. educ. Res.*, 1935, 29, 17-28.—Drill is defined as relying upon repetition for its effect upon learning. Subjects were 63 children in grade III who had been taught 200 number combinations in the preceding two grades. Tests were given of the efficiency of this training, and the children were interviewed regarding the methods used in the solving of these problems, such as counting, indirect solution, guessing, or immediate recall. The results indicate that drill does not guarantee immediate recall of such numerical data. The reason is that drill by the teacher does not necessarily lead to repetition on the part of the pupils. Also, in spite of long-continued drill the children still tend to maintain the use of whatever procedures they have found to satisfy the number needs. Bibliography of 20 titles.—*S. W. Fernberger* (Pennsylvania).

587. **Brueckner, L. J.** Selected references on elementary school instruction. I. *Elem. Sch. J.*, 1935, 36, 59-66.—Listed and annotated are 22 "selected publications" in the field of the elementary-school curriculum, 15 in methods of teaching and study, and 17 in supervision of elementary-school instruction, which appeared during the period from April 1, 1934 to March 31, 1935.—*P. A. Witly* (Northwestern).

588. **Brueckner, L. J.** The principles of developmental and remedial instruction. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 189-198.—Generalizations referring to basic principles of instruction are the following: the growth of the individual and not any particular school subject should be the primary consideration; all objectives of instruction should be clearly formulated and understood by the teaching staff; the need for remedial instruction should not prevent the child from participating in these objectives; remedial instruction should be carried out by the regular teacher who has intimate contact with the pupil; treatment should begin with a specific and direct approach to the understanding of particular difficulties; any successful remedial program should cull the established findings from all branches of scientific inquiry; the correction of physical handicaps is an important initial step in a remedial program; special consideration should be given to environmental factors; any remedial program should be flexible and adaptable; individual differences must be recognized; self-diagnosis and self-correction are all important; differential types of instruction should be devised for pupils of superior and inferior mental ability; cumulative records of diagnostic and remedial procedures are important and all remedial work should be validated.—*P. S. de Q. Cabot* (Harvard).

589. **Brueckner, L. J.** Diagnosis in arithmetic. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 269-302.—Four major functions of arithmetic are considered: compu-

tational, informational, sociological and psychological. All are closely interrelated. Dull children should not be limited to practice in computation alone. Factors contributing to growth in arithmetical ability may be classified as physiological, mental, emotional, social and environmental. Faulty learning in arithmetic may be recognized by many symptoms, some of which are: inaccuracy of work, low scores on survey tests, guessing, lack of interest, confusion of processes, faulty work methods, failure to improve with practice and haphazard arrangement of work. The inadequacy of existing norms makes difficult the interpretation of the results of analytical tests and tests in problem solving. Laboratory research has supplied valuable information for insightful analyses of the arithmetical learning process. Valuable methods of approach in analyzing errors are those of observing the pupil at work, analyzing written work, analyzing oral responses, and interviewing. None of these is valid separately. A remedial program should allow for the fact that the mental attitude of the learner is important and that suitable motivation is necessary; problems should be well graded and interesting; pupils should be encouraged to suggest solutions; neatness of work should be emphasized; examples should be realistic and meaningful, while standardized progress tests, regularly given to pupils, enable the latter to gain added insight into their own strength and weaknesses.—*P. S. de Q. Cabot* (Harvard).

590. **Cole, P. R.** [Ed.] The education of the adolescent in Australia. Melbourne: Univ. Press, 1935. Pp. 352.—This volume comprises ten chapters, contributed by ten specialists in adolescent education and designed to serve the same purpose in Australia as was served by the Hadow report on adolescent education in England. Education in Australia is still in a transitional stage, but there is emerging the clear conviction among the schoolmen that the secondary schools must reach and influence socially and educationally not merely the favored few, but the masses of the population as well. It is insufficient that adolescent education should merely train leaders; it must be sufficiently diversified to meet the needs and the individual aspirations of the entire juvenile group. Since each adolescent is to become both a worker and a personality, education must not confine itself to vocational fields, but must concern itself with the whole personality. Since the federation of the Australian states there have been organized some 600 schools providing some form of secondary training. Between 1910 and 1933 the number of pupils enrolled in these schools multiplied almost fifteen times. The following experts contribute chapters to the volume: Peter Board (historical); Frank Tate (administration); H. T. Lovell (psychology of adolescence); Alexander Mackie (teacher training); J. A. Seitz (curricula); R. G. Cameron (activities); K. S. Cunningham (admission, tests, etc.); H. L. Harris (legislation); C. E. Fletcher (buildings and equipment); J. R. Darling (current problems in secondary education). P. R. Cole, the editor, contributes an introductory chapter to the general discussion. In the appendices are reproduced a few examinations for

state scholarships in high schools.—*L. A. Averill* (Worcester State Teachers College).

591. **Crichton-Miller, H.** *Contrainte et punition dans la famille et à l'école.* (Coercion and punishment in family and school.) *J. belge Neurol. Psychiat.*, 1935, 35, 390-397.—The author discusses the paper by Meng (see X: 608). He agrees with him in his contention that the goal of education is to adapt the individual so that he may become a socially cooperative person, but he does not believe that recourse to punishment is prompted by a desire for vengeance, as postulated by Freud. Coercion and punishment may have a certain value in the early stages of education, but will not in themselves produce a person capable of contributing to the progress of society.—*H. Sys* (Cornell).

592. **Curtis, F. D.** *Diagnosis and remedial treatment in the field of science.* *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 331-345.—"One of the most significant recent developments in the field of the teaching of science has been the refining and defining of major objectives." The functional understanding of principles and the inculcation of scientific attitudes have been recognized as two objectives at the elementary and secondary levels of school instruction. Diagnostic techniques are difficult to devise in relation to either scientific principles or scientific attitudes, since there are no generally accepted definitions of these last named objectives. Diagnosis in the field of science will depend a good deal upon refinements of present-day tests. Moreover "the real test of the effectiveness of training in scientific method cannot be determined with classroom situations or classroom tests, but only by the reactions of learners in out-of-school and post-school situations."—*P. S. de Q. Cabot* (Harvard).

593. **Dale, E.** *Diagnosis in leisure time activities.* *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 477-486.—Since free choice on the part of an individual is an important and desirable characteristic of leisure time activities, the field of interests is one where diagnosis is profitable. This can be done by means of the method of paired comparisons and questionnaires. The field of the motion picture is one in which definite diagnostic work is being carried out at Ohio State University. Only a small percentage of parents and teachers give guidance to high school students in regard to their selection of motion picture entertainment.—*P. S. de Q. Cabot* (Harvard).

594. **Danner, W. M.** *Silent reading in college groups coached by rhythmic auditory pacing technique.* *Psychol. Bull.*, 1935, 32, 532.—Abstract.—*J. F. Dashiell* (North Carolina).

595. **Drake, R.** *A comparison of two methods of teaching high school algebra.* *J. educ. Res.*, 1935, 29, 12-16.—Study of two 9th-grade classes in algebra at the University of Minnesota High School. The two groups were matched for achievement, IQ, CA, and scores on a survey and an arithmetic test. One group was taught by the group method and the other by the individual method, with each individual allowed to proceed at his own rate. From a statistical

treatment of the results, the author concludes that students with superior ability attain a higher standard of achievement under the group method of instruction than under the individual method.—*S. W. Fernberger* (Pennsylvania).

596. **Dunlap, J. W.** *Preferences as indicators of specific academic achievement.* *J. educ. Psychol.*, 1935, 26, 411-415.—Two courses of elementary school study were analyzed and basic items occurring in both were selected from the fields of geography, literature, arithmetic, history, general achievement, physiology, and grammar. These items were arranged in a preference blank and administered to two groups of seventh-grade children together with criterion tests. Certain items were selected for further study and were administered together with achievement and intelligence tests to a group of seventh-grade children and a group of eighth-grade children. Correlations between scores on the achievement test and scores on the preference test ranged between .30 and .60. All zero order correlations, partial correlations, and multiple correlations involving preferences, achievement, and intelligence were positive. It is concluded that the expressed preferences could be used to increase materially the accuracy of the prediction of future academic success at the junior high school level.—*A. W. Melton* (Missouri).

597. **Elmerich, E.** *Charaktererziehung in der Vorpubertät auf soziologischer, jugendpsychologischer und geschlechterpsychologischer Grundlage.* (Character education in the pre-pubertal period on the basis of sociology and adolescent and sex psychology.) Berlin-Friedenau: N. Pfeiffer, 1935. Pp. viii + 96. RM 3.50.—This is the first attempt to base a system of character education on M. Vaerling's psychology and sociology of power. Strict adherence to his theory leads to the discovery of entirely new educational methods. The especially difficult pre-pubertal stage is made the nucleus of this study. The awakening of sexuality which dominates this period is examined as to its meaning for character education, and the management of this problem is described. An extensive bibliography is included.—*E. Elmerich* (Gotha i. Thüringen).

598. **Ficken, C. E.** *Predicting achievement in the liberal arts college.* *Sch. & Soc.*, 1935, 42, 518-520.—High school rank proved much more valuable than score on the Minnesota College Aptitude Test for predicting the first-semester, first-year, or total college grade-point averages of the students in Macalester College, a small liberal arts college. The coefficients of correlation between the various grade-point averages and high-school rank ranged from .525 to .689; between the former and aptitude test score from .116 to .394. The women in the groups studied scored 23 to 25 points higher on the aptitude test than did the men, a fact which the author believes can be explained largely in terms of the linguistic emphases in the test.—*H. L. Koch* (Chicago).

599. **Good, H. G.** *New data on early engineering education.* *J. educ. Res.*, 1935, 29, 37-46.—Historical statement regarding early courses of engineering in

this country with a discussion of the needs for the development of such courses.—*S. W. Fernberger* (Pennsylvania).

600. Gray, W. S., Lyman, R. L., Breed, F. L., Freeman, F. N., Tryon, R. M., & Parker, E. P. Selected references on elementary-school instruction. II. The subject fields. *Elem. School J.*, 1935, 36, 129-146.—Listed and annotated are 45 references in the area of reading, 23 in English, 14 in spelling, 11 in handwriting, 19 in the social sciences, and 19 in geography.—*P. A. Witly* (Northwestern).

601. Gudakunst, D. W. Diagnosis in health education. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 347-361.—In the development of health education there has been a shift in emphasis from a consideration of the simple control of environmental conditions such as fire hazards and ventilation to a more comprehensive interest in personal hygiene with its many complex problems. Parents and teachers can help the school physician in many ways and parents should not think they can shift the entire responsibility for the health of the children to the school authorities by neglecting their duties during the preschool period of the child's life. Simple health inspections, whether for communicable disease or for the symptoms of disease in general, contribute in "establishing in the minds of the children and parents a better idea of what constitutes good health." Epidemics can be prevented by the understanding cooperation of teachers, parents, nurse, physician and school department of health. Teachers themselves can help in the diagnosis of physical defects pertaining to malnutrition, vision, hearing, teeth, tonsils, skin, cervical glands, goiter, posture and chorea. "The greatest contribution that health education can make to a community is to impart knowledge as to how to use the existing corrective and prophylactic medical forces afforded by that community."—*P. S. de Q. Cabot* (Harvard).

602. Ingram, C. P. Education of the slow-learning child. *Yonkers-on-Hudson: World Book*, 1935. Pp. xii + 419. \$1.80.—Emphasis throughout is given to the educational integration of all groups in the school population. Part I treats of the nature and needs of mental retardates: their physical, mental, and social development, motor abilities, learning, after-careers, and educational objectives. Part II, on the school program, takes up the organization of the special class, its selection of pupils by means of case studies, its challenge to the teacher as an educational laboratory, the attainments possible at various age levels, and a method for reaching these attainments by means of "experience units." These latter make use of the experience and activity of children as a basis for learning. Descriptions of these units are offered. A chapter on the acquisition of the tool subjects and one on the adjustment of the mentally retarded to the community complete this part. Part III, a single chapter, is devoted to the education of the borderline and dull normal. The defects of these children are not quite as serious as those of the mentally deficient. The book is replete with suggestions for the teacher,

and includes many reading references for both teacher and pupil.—*M. W. Kuenzel* (Children's Home, Cincinnati).

603. Ingram, C. P. Tendências recentes en la educación de los anormales. *Bol. pan-amer. Union, Ser. Sob. Educ.*, 1934, No. 91. Pp. 11.—A description of special educational activities for exceptional children as carried on in Rochester, N. Y. A Portuguese translation appears as No. 50 of the same series.—*C. M. Loutit* (Indiana).

604. Keys, N. Adjustments of under-age students in high school. *Psychol. Bull.*, 1935, 32, 539.—Abstract.—*J. F. Dashiell* (North Carolina).

605. Martínez de Salinas, P. La conducta del niño y la actitud del maestro. (The child's behavior and the teacher's attitude.) *Rev. Psicol. Pedag.*, 1934, 2, 152-163.—Salinas discusses the "circular reaction" between teacher and pupil, the most important factor in which is the teacher's attitude and the determination of this attitude; and the solution of the problem, which is the education of the teacher as to the origin of the child's emotional difficulties. Indulgence toward submission and apathy and aggression toward aggression aggravate the situation. The author also reports the results of a questionnaire carried out in the continuation courses of the Catalonian Normal School. It concerned a quantitative evaluation of the behavior problems which the teachers considered most important. The answers revealed the predominating factors in their attitudes—the rigidity of their training, their will to power and their moral judgments. The least importance was given to submissive or unsocial behavior; intermediate values to extravagant or aggressive traits and transgressions against order and school work; and the greatest weight to immorality and an aggressive attitude toward authority. This is practically the reverse order of their psychiatric significance.—*M. E. Morse* (Baltimore).

606. McCall, W. A. My philosophy of life and education. *Teach. Coll. Rec.*, 1935, 37, 50-59.—A continuation of a previously abstracted article (see IX: 2470). Seven more theses are presented and discussed; they concern purpose.—*J. M. Stalnaker* (Chicago).

607. Meier, N. Diagnosis in art. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 463-476.—If the functions of art instruction are oriented merely toward the development of an appreciation or enjoyment of leisure time they are inadequate. Knowledge of art is essential to our social, industrial, business, spiritual and mental life, as well as to an understanding of current events. Scientific analysis is gradually exposing the mystery surrounding art talent. Some kinds of art can be executed by people of low intelligence, but much of the creative type of art implies the possession of at least average intelligence. Diagnostic techniques include the scale method, ability tests, and tests of artistic appreciation.—*P. S. de Q. Cabot* (Harvard).

608. Meng, H. Zwang und Strafe in Familie und Schule. (Coercion and punishment in family and

school.) *J. belge Neurol. Psychiat.*, 1935, **35**, 381-389. —The author rejects the question whether the use of coercion and punishment in education is useful or harmful for the child's development as impossible to answer. Mental hygiene must judge all measures by their effect on the natural maturation of the child, and coercion and punishment may have positive as well as negative results, depending on the extent to which they are used, on the age and make-up of the child, and on the environmental setting. The reason for the universal recourse to coercion and punishment must be sought in the desire for vengeance, as Freud has shown. Pedagogical intervention based on psychoanalytic principles should strive to submit the psychic reactions of the child to the domination of the ego, and so to utilize all educational methods that they will produce a mature and socially adapted personality.—*H. Syz* (Cornell).

609. Myers, V. C. Who offers what in the psychology of education? *J. educ. Psychol.*, 1935, **26**, 468-470.—A survey of the offerings of universities, liberal arts colleges, and teachers' colleges in the field of education and closely related subjects. General psychology is usually a prerequisite to courses in education; child psychology is stressed more than adolescent psychology; relatively new subjects, such as guidance and character education, are frequently offered.—*A. W. Melton* (Missouri).

610. Oppenheimer, J. J. An experiment in inducting a special group of high school students into the College of Liberal Arts. *Kentucky Person. Bull.*, 1935, No. 14.—*R. R. Willoughby* (Clark).

611. Painter, W. I. The content of examinations in certain professional education courses. *J. educ. Res.*, 1935, **29**, 29-36.—Statistical study of 194 examinations, submitted by instructors of education from various parts of the United States, for such topics as educational psychology and sociology, educational measurements, principles and technique of teaching, and secondary education. Analysis was made for such topics as history of education, aims, methods and subject matter, heredity and environment, individual differences, and the like. The results indicate much overlapping between the courses, and the author concludes that such repetition should be given only for purposes of review and should not be tested as an integral part of successive courses in education.—*S. W. Fernberger* (Pennsylvania).

612. Payne, A. F., & Perry, J. D. The intelligence ranking of 250 City College honor students. *Sch. & Soc.*, 1935, **42**, 383-384.—The authors present evidence for their conclusion that in a high percentage of cases the students who make high scores on psychological examinations earn graduation honors.—*H. L. Koch* (Chicago).

613. Peypoudat, G. L'orientation professionnelle des intellectuels; ses bases psychologiques; son importance sociale. (Vocational guidance of intellectuals; its psychological bases and social importance.) Pau: Off. Orient. Prof. de Pau, 1935. Pp. 78. 5 fr.—The author first defines what he calls the liberal careers, showing the confusion of adolescents at the

time of deciding which liberal profession to undertake, and indicating which special studies are required. The requisite intellectual and affective qualities for the professions are also indicated. The author announces the creation of a bureau of documents for the use of students and their families. Periodical statistics will also be given showing the demand for intellectual workers.—*M. H. Piéron* (Sorbonne).

614. Rankin, P. T. Diagnosis and remedial instruction in creativeness. *Yearb. nat. Soc. Stud. Educ.*, 1935, **34**, 487-498.—Examples of creativeness are quoted to illustrate the diversity of fields in which this trait is seen. Creativeness at one time seems consciously planned, at another time it is almost accidental. Any school that values creativeness in youth should seek the following objectives: the consciousness of a need for improvement where there is an awareness that something is better; the desire to create where there is provision for exploratory experiences, execution of which results in growing satisfaction; and finally the ability to carry out the necessary steps. The last named objective involves the following sequence: the ability to sense the problems, the preparation of a plan of action, the collection and selection of the necessary materials, and the important last stage of self-appraisal. Fruitful lines of approach in diagnosing creativeness are the study of the class situation, the identification of pupils needing special help, and a case-study understanding of individual pupils. In remedial work no progress can be made unless the pupil is conscious of a developing satisfaction in his efforts to realize his creative impulses. Interpretation of work done leading to generalizations is also important in fostering the creativeness of any group of children.—*P. S. de Q. Cabot* (Harvard).

615. Redl, F. Zum Begriff der "Lernstörung." (The concept of "learning disorder.") *Z. psychoanal. Pädag.*, 1934, **8**, 155-177.—"Learning disorder" is defined as a (positive or negative) discrepancy between what may be expected of and what has been achieved by a student. Insufficiency and disorder should be carefully distinguished in analysis and treatment. The latter may be based on disorders of behavior, performance, or ability (reasoning) which singly or in combination account for the various types of educational maladjustment.—*H. Beaumont* (Kentucky).

616. Reeder, C. W. Study habits. *Sch. & Soc.*, 1935, **42**, 413-415.—For a group of third-quarter college students the coefficients of correlation between score on the Wrenn Study Habit Inventory and cumulative point ratio, intelligence test score, and grade in a course given in the College of Commerce and Administration were, respectively, .239, .182, and .265. Intelligence-test scores and cumulative point ratios correlated .561. The author concludes that the Wrenn Inventory reveals little of help in diagnosing the difficulties of poor students.—*H. L. Koch* (Chicago).

617. Schwarz, J. Nauczyciel w świetle badań psychologicznych. (Psychology of the teacher.)

Psychometrika, 1935, 2, 271-324.—The psychology of the grammar school teacher was studied by means of anonymous questionnaires, the Otis intelligence tests (adapted to Polish conditions), special experiments such as estimating the degree of intelligence and educability of children from photographs, and anthropometric measurements. The Czekanowski anthropometric classification and criteria were used. The racial distribution of post-graduate teachers ($N = 89$) was this: sub-Nordic type 42.6%, Nordic 7.4%, Alpine 2.5%, pre-Slavonic 3.8%, no definite type 32.7%; the corresponding figures for pre-graduate students in schools for teachers were: 35.2%, 4.2%, 9.7%, 10.4%, no definite type 33.3% ($N = 144$). Women teachers came from culturally better social classes than men teachers. These and other results are summarized in 35 detailed tables. The total number of subjects was 563. Correlation between the subjects' estimates of educability and degrees of educability assigned by those who had worked with the children for several years was .623 ($N = 142$).—Z. Piotrowski (Columbia).

618. Seashore, C. E. The discovery and guidance of musical talent. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 447-461.—The study of individual differences reveals great variations of talent among apparently similar individuals. Laboratory diagnostic methods of investigating musical talent are concerned with the isolation and prediction of success in such factors as pitch, timbre and tonal quality. An individual may have an excellent sense of pitch but be quite incompetent in other musical attributes. Attempts are now being made to validate batteries of diagnostic tests as well as to develop musical guidance programs in public schools. Teachers should be trained more in the art of the analysis of musical talent; they should also insist less on drill and more on inspiring pupils toward creativeness. No adequate system of guidance for a professional career in music exists. Any regimentation of procedures is extremely inadvisable.—P. S. de Q. Cabot (Harvard).

619. Smith, D. V. Diagnosis of difficulties in English. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 229-267.—Free and effective expression in English may be either hindered or facilitated by health factors, mental capacity, social and environmental influences, interests and attitudes, pedagogical factors, learning difficulties in thought and expression and in the mechanics of the subject matter and in sentence structure. Efforts in diagnosis in the field of certain powers of expression by means of composition and other scales, and in the development of speech and verse, have met with only varying degrees of success. "Most fundamental of all is the constant substitution of meaningful tasks for artificial exercises in order that pupils may be motivated to effort through appreciation of the intrinsic value of what they are attempting to learn." Many problems await investigation, such as agreement upon the objectives of the teaching of English, the best methods of improving pupil control of sentence structure, the relative importance of errors, objective methods for measuring oral composi-

tion, instruments for analyzing power in composition, grade placement of materials on the basis of relative difficulty, and objective recording of pupils' study techniques.—P. S. de Q. Cabot (Harvard).

620. Soderquist, H. O. Participation in extra-curriculum activities in high school or college and subsequent success in teaching adults. *Sch. & Soc.*, 1935, 42, 607-608.—407 teachers employed in the Federal Emergency Education Program in Minnesota were classified according to whether or not they had acted as officers in extra-curriculum activities while in high school or college, and were rated as to their present teaching success by the public school superintendents under whom they worked. The biserial r between participation in extra-curriculum activities and success in teaching was found to be .25. The women who had participated in extra-curriculum activities earned significantly higher ratings in teaching efficiency than did the women who had not participated. The same generalization could not be made with respect to the men.—H. L. Koch (Chicago).

621. Stenquist, J. L. Vocational interests, ability and aptitude. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 435-445.—Successful vocational prognosis is extremely difficult, and no single test or battery of tests has yet been devised to predict vocational success adequately. Thorndike's report emphasizes the fact that to forecast vocational success on the basis of educational records and tests taken ten years previously is futile. But investigations carried out in the Baltimore public schools have shown that it is possible to predict with reasonable assurance at age fourteen whether a student will be more successful in academic, clerical or mechanical lines. Diagnosis of vocational abilities for specific immediate jobs has been far more successful than Thorndike demonstrated in the field of generalized vocational guidance.—P. S. de Q. Cabot (Harvard).

622. Stenquist, J. L. The administration of a program of diagnosis and remedial instruction. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 501-523.—The essential feature of the administration of such a program is an intelligent leadership that enables every participant in a school system to further those objectives formulated on the basis of providing equal educational opportunity for each child and on a recognition of the validity of the theory of individual differences. Staff conferences concerning experimental programs should be regularly held. Working conditions to enable research officers and teachers to carry on diagnostic investigations should be provided. Definite testing and teaching techniques should be adopted by the well directed cooperative efforts of all officials and teachers in any system. Research departments should be the central coordinating agency in guiding a program of diagnostic education. An important primary feature of a systematic recurring testing program is the discovery of maladjustments. Administrative measures facilitating diagnostic teaching affect the classification of pupils according to ranges of ability, the selection of

instructional material, provision for accelerating bright pupils, provision for dull pupils, and the necessity for adequate current working records and cumulative records pertaining to the individual's school progress. Attention must be paid to teacher training programs, to the necessity for developing precise and objective measurements, and to gaining the cooperation of parents and the public in "securing legislative financial support and sympathetic public opinion."—*P. S. de Q. Cabot* (Harvard).

623. **Touton, F. C.** Scholastic aptitudes and achievements of FERA students. *Sch. & Soc.*, 1935, 42, 269-271.—The college aptitude test scores of 268 students at the University of Southern California granted Federal aid are compared with those of a random sample of non-FERA students, 499 in number. A comparative study is also made of the first-semester grades of 424 FERA and 498 non-FERA students. Both in scholastic aptitude and achievement the FERA group outstrip the non-FERA, and in both respects also the variability of the former is less than that of the latter.—*H. L. Koch* (Chicago).

624. **Travis, L. E.** Diagnosis in speech. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 399-434.—"At least 5% of the school population possesses speech defects of sufficient severity to warrant remedial attention." The number of children who stutter, regardless of age, is about 1%. In diagnosing articulatory speech defects it is advantageous to consider the following factors: the child's history, his general physical health, specific physical factors such as cerebral lesions, tongue and uvula abnormalities, intranasal obstructions, cleft palate, adenoids and defective hearing, psychological factors such as mental deficiency, emotional maladjustments, short auditory memory span, incoordination of the speech muscles and inadequate discrimination of vocal sounds. A child's speech can be examined from the point of view of oral reading, repetitive and spontaneous speech, and imitation of sounds. Many factors have to be investigated in diagnosing a case of stuttering; they include handedness, diseases, hereditary background, the possibility of bilingualism, and the developmental history of the stuttering itself. Speech training for stutterers should encourage them to develop an objective point of view and to learn to stutter not badly but as well as possible by the elimination of all accessory motor movements.—*P. S. de Q. Cabot* (Harvard).

625. **Traxler, A. E.** Sex differences in rate of reading in the high school. *J. appl. Psychol.*, 1935, 19, 351-352.—No significant differences were found in rate of reading between high school boys and girls on the Iowa Silent Reading Test.—*R. S. Schultz* (Psychological Corporation).

626. **Tulchin, S. H.** Emotional factors in reading disabilities in school children. *J. educ. Psychol.*, 1935, 26, 443-454.—A presentation of four cases of reading disability in which emotional factors were of importance.—*A. W. Melton* (Missouri).

627. **Vogel, L.** L'intervention médicale dans l'orientation professionnelle des adolescents. (Med-

ical participation in professional orientation for adolescents.) Paris: Jouve, 1934. Pp. 55.—The role of the physician seems to the author to be threefold: a medical examination at the time of the apprentice's entrance into the trade or technical school; medical surveillance during the course of his apprenticeship; and prophylactic and therapeutic care. The author considers only professional orientation in respect to a certain group of manual trades. The contraindications for various categories of trades (agriculturists, stone workers, iron workers, workers in the chemical industries, electricity and building trades, workers in metals, wood, foods, textiles, leather hides, books, etc.) are given, as well as the inferences to be drawn from disorders in the circulatory, respiratory, digestive apparatus, etc.—*M. H. Piéron* (Sorbonne).

628. **Wesley, E. B.** Diagnosis in the social studies. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 303-330.—Particularly in the social studies it is important to recognize and state the teaching objectives, which may be summarized under four headings: special skills and abilities, information and knowledge, social and personality traits, and statements of the comprehensive social purpose. In common with poor performances by a pupil in any subject matter, the following factors operate in the case of the social studies: intelligence, health, social adjustment, environment, incentives, application and effort, freedom from distractions, adequate time, quality of teaching, materials of instruction. In addition there are such special factors particularly associated with unsatisfactory progress in the social sciences as experience, vocabulary, expanding meanings, vicarious learning, sense of time, sense of place, attitudes, and allegiances. Remedial procedures should be concerned with encouraging development and enlarging the pupil's range of experience in relation to these factors.—*P. S. de Q. Cabot* (Harvard).

629. **Williamson, E. G.** Changes in college freshman intelligence. *Sch. & Soc.*, 1935, 42, 547-551.—By comparing the performance on the Minnesota College Aptitude Test of students entering the University of Minnesota in 1929 and 1933, the author comes to the conclusion that the classes, taken as wholes, differ little in mean score and variability, but that students who enrolled in 1933 in the College of Agriculture, Forestry, and Home Economics, in the School of Chemistry, and in the College of Engineering rate conspicuously higher than those who enrolled in 1929. Changes in the admission policies of these latter schools and colleges are believed to be responsible for the superior performance of the 1933 group. A similar study of the arts college students entering the University in 1926, 1928, and 1934 revealed that the mean score of freshmen has risen steadily from 1926 to 1934 and that the group variability has decreased. To get light on selective factors which may account for the rising level of intelligence among arts college freshmen, the performance of the graduates from two large high school systems was investigated. One of these systems has an elaborate formal guidance program; the other, virtually none.

The author thinks the evidence suggests that the formal coordinated efforts of guidance workers in a high school result in saving a larger number of capable men and women for college training but fail in effectiveness with respect to discouraging less capable students. In achieving the latter, other factors, possibly economic and social, appear to be more influential.—*H. L. Koch* (Chicago).

630. Woodring, M. N., & Flemming, C. W. Recent trends in study. *Teach. Coll. Rec.*, 1935, 37, 27-49.—A discussion of the general topic followed by annotated references is given for each of the following: the assignment, laboratory procedure, the library, home study, the study hall, reading, general study procedures, and techniques in specific fields. Additional references, not annotated, list 20 titles.—*J. M. Stalnaker* (Chicago).

631. Woody, C. Stimulating instructional research in Michigan schools. *J. educ. Res.*, 1935, 29, 93-104.—There is great interest in research in the schools of Michigan. This has been accomplished by the development of a special course and by monographs circulated among the workers.—*S. W. Fernberger* (Pennsylvania).

632. Wrightstone, J. W. Appraisal of newer practices in Latin teaching. *Sch. & Soc.*, 1935, 42, 302-304.—The study compares the ability to read Latin, the Latin vocabulary, and the knowledge of Latin grammar of two groups of 125 children each, similar in IQ and the teaching experience and skills of their teachers but differing in the way they were taught Latin. One group was taught according to an older tradition which emphasizes formal drill in grammar and provides little reading. The program of the other group was characterized by a vitalized language approach through a study of English vocabulary, much collateral reading, much reading in easy Latin texts, emphasis on the reading of Latin as Latin, a functional study of grammar, and the employment of realia. The group exposed to these newer practices tested higher, though not significantly so, than the group taught in accordance with the more conservative tradition.—*H. L. Koch* (Chicago).

633. Wrightstone, J. W. Constructing an observational technique. *Teach. Coll. Rec.*, 1935, 37, 1-9.—Observers were trained to recognize student behavior in the classroom as demonstrating: initiative, cooperation, consideration of others, enthusiasm, memorization. Quantitative records were obtained. The reliability was found to be about .85 to .95 (except "consideration") for 250 minutes of observation. Anecdotal records (observer diary) were also obtained and evaluated by the equal-appearing interval technique.—*J. M. Stalnaker* (Chicago).

634. Yamasita, T. The reasons for choices of vocation and school of high school students. I. *Jap. J. appl. Psychol.*, 1935, 3, 459-472.—*R. Kuroda* (Keijo).

[See also abstracts 85, 146, 327, 346, 397, 445, 475, 498, 500, 507, 525, 541, 555, 646, 647, 648, 649, 650, 671, 676, 679, 681.]

BIOMETRY AND STATISTICS

635. Bartlett, M. S. The statistical estimation of *G*. *Brit. J. Psychol.*, 1935, 26, 199-206.—Spearman's theory of ability gives rise to two statistical problems: (1) examining to what extent experimental data conform to the theory, (2) estimating general and specific abilities specified by the theory, assuming it to be true. Some aspects of the second problem are considered in this paper, with particular reference to the amount of information respecting *G* available from test scores. (*G* is used for general ability, and *g* for our estimate of it.)—*M. D. Vernon* (Cambridge, England).

636. Castellano, V. Sullo scarto quadratico medio della probabilità di transvariazione. (On the median standard deviation of the probability of transvariation.) *Metron*, 1934, 11, 19-76.—The probability of transvariation is equal to twice the probability that if a quantity is drawn out at random from each of two given groups, the difference between these quantities will have a sign contrary to that of the difference between the medians of the respective groups. After having reviewed the concepts of the probability of transvariation between one group and a quantity and between two groups, Castellano considers the probability of transvariation in connection with the statistical constants of the random samples. The author gives the derivation of the standard deviation of the probability of transvariation and adduces several examples of its statistical application.—*N. D. Roodkowsky* (New York City).

637. Davis, H. T., & Nelson, W. F. C. Elements of statistics. Bloomington, Ind.: Principia Press, 1935. Pp. xi + 424.—A text suitable for a six semester hour course to be preceded by a course in mathematical analysis. Algebraic processes are given in full. The illustrative material and problems are chiefly from data of economic significance. Bibliography is limited to references carried in notes throughout the text. Chapters deal with graphical analysis, curve fitting, averages, index numbers, time series, probability, frequency distributions, sampling, correlation, and types of statistical series. Appendices present biographical notes and notes on computation, as well as ten tables, which include logarithms, squares, reciprocals, areas of the normal curve, *P* for the chi-square test, and coefficients for fitting curves to data. Exercises and problems are interspersed throughout the text and answers are presented at the end of the book. There are indexes of names and subjects.—*P. J. Rulon* (Harvard).

638. Gengerelli, J. A. The measure of the degree of determination of one variable by another. *Psychol. Bull.*, 1935, 32, 533-534.—Abstract.—*J. F. Dashiell* (North Carolina).

639. Irwin, J. O. Tests of significance for differences between percentages based on small numbers. *Metron*, 1935, 12, 83-94.—The ordinary formula for the standard error of the difference between two percentages gives the same result as applying the chi-square test to the corresponding four-fold table,

and may be used without serious error when the expected numbers in any cell of the table are greater than five. When this condition is not fulfilled, three possible methods suggest themselves, of which the most expedient is to suppose all marginal totals to be fixed, then enumerate all the possible tables which can arise, work out the probability of each and then deduce the probability of a table arising by chance as probable or less probable than that observed. A method for making this analysis is applied to seven numerical examples, in five of which the proposed method would yield the same conclusion as the usual method if the criterion of significance be placed at probability .05. In samples of reasonable size, say a total of 30, we shall seldom be misled by applying the usual test and taking the 1% level of significance, even if there are small frequencies in one or two cells.—P. J. Rulon (Harvard).

640. Jordan, R. C. An empirical study of the reliability coefficient. *J. educ. Psychol.*, 1935, 26, 416-426.—A comparison of the reliability coefficients obtained by correlating scores on odd and even items and by correlating scores on two comparable test forms. The reliability coefficients are consistently lower when equivalent forms are used. The Spearman-Brown formula is given further empirical validation.—A. W. Melton (Missouri).

641. Kelley, T. L. An unbiased correlation ratio measure. *Proc. nat. Acad. Sci., Wash.*, 1935, 21, 554-559.—The correlation ratio "lacks a certain desirable simplicity of meaning in that its value, r , obtained from a sample, differs from the population value, η , not only in a random manner due to the fluctuation of the particular sample, but also in a systematic manner which is a function of the number of arrays in which the data are recorded." Formulas are presented for a new correlation ratio squared, ϵ^2 , which is an unbiased estimate of η^2 , and for its standard error; and its substitution in place of η^2 in Fisher's formula for χ^2 is provided for.—F. S. Keller (Colgate).

642. Salvemini, T. Ricerca sperimentale sull'interpolazione grafica di istogrammi. (Experimental research on graphic interpolation in histograms.) *Metron*, 1934, 11, 83-198.—The article includes the treatment of the following topics: graphic interpolation in general and the interpolation of histograms in particular, graphic and analytic interpolations, various methods of interpolation. There is also a chapter devoted to the interpolation of Pearsonian curves. The conclusions are summarized by the author under the following headings: (1) principal errors generally encountered in the interpolation of curves; (2) how the exact form of the interpolated curve varies with the variation of the type of the original curve; (3) how the goodness of the interpolation varies with the size of the elements of the histogram, and with the division of the total interval into partial intervals; (4) the interpolated histograms should be interpreted in the light of statistical knowledge possessed by the designers of the curves; (5) whether each designer has characteristic tendencies

in sketching the graphic interpolation of the histogram; (6) the elements which determine the interpolation of curves.—N. D. Roodkowsky (New York City).

643. Smirnov, N. Ueber die Verteilung des allgemeinen Gliedes in der Variationsreihe. (On the distribution of the general term in a variation series.) *Metron*, 1935, 12, 59-81.—By variation series is denoted the array $x_1, x_2, x_3, \dots, x_n$, which represents the observed values of a chance variable X arranged in increasing order of magnitude. If the probability law $f(x)$ of the magnitude X is continuous and nowhere vanishing except at the ends of the distribution interval (if it is limited) and if the ratio k/n does not by the increase in n approach within any given limit of 0 or 1, then the distribution of the k th term of the variation series approaches normality with a mean value $\bar{x}_k = G(l_k)$ and a variability $\sigma_k = l_k/f(\bar{x}_k)$, where $G(z) = x$ is the inverse of $F(x) = z$, $F^*(x) = f(x)$, $l_k = (k-1)/(n-1)$, and $l_k = [l_k(1-l_k)/(n-1)]^{1/2}$.—P. J. Rulon (Harvard).

644. Stephenson, W. A note on the 'purification' technique in two-factor analysis. *Brit. J. Psychol.*, 1935, 26, 196-198.—By a study of the "disturbances" of the tetrad differences found in Brown and Stephenson's test of the theory of two factors, the overlap due to the V-factor and to a factor of "spatiality" was investigated. The latter emerges as a group factor significant in all tests involving the perception or manipulation of spaces and areas.—M. D. Vernon (Cambridge, England).

[See also abstracts 84, 356, 358, 646, 647, 648, 649, 650, 653.]

MENTAL TESTS

645. Anderberg, R. Recruitment at the Royal Swedish Navy with the aid of intelligence tests. *Uppsala Univ. Årsskr.*, 1935, No. 4. Pp. 77.—In the spring of 1932 the Swedish Naval Board started an investigation on tests; the following year the results obtained in 1932 were verified in important points. The attendants at the navy schools for corporals and for non-commissioned officers, a number of undergraduates at the University of Uppsala, and some pupils at the school of pedagogy at Uppsala were subsequently subjected to the same tests. From these investigations, a test scale for examination of applicants to the Royal Navy has been constructed, and rules for admission have been formulated. From the autumn of 1934 the tests have been used as admission examinations at the naval stations of Stockholm and Karlskrona. The present report treats the methodological problems, and the results obtained are presented in two parts; Part I reports on the primary investigations of 1932, and Part II on the control investigations and the tests in the schools for corporals and non-commissioned officers. The test scale itself is printed separately and is not included in the paper.—M. L. Reymert (Mooseheart Laboratory for Child Research).

646. Holzinger, K. J. Preliminary report on Spearman-Holzinger unitary trait study. No. 1.

Raw correlations, reliabilities, means, and standard deviations for seventy-eight variables, using a sample of 118 cases. Chicago: Statist. Lab., Dept. Educ., Univ. Chicago, 1934. Pp. ii + 27. \$.60.—About one hundred tests of various kinds, mostly paper and pencil tests of intellectual abilities, were administered to two groups of pupils; one of approximately 700 children in the Mooseheart schools, the other of nearly 400 children in the Thorp Elementary School at Chicago. From the children in the Thorp School 118 cases were selected which represented pupils who had taken all of the tests. The mean chronological age of these pupils was 13.2 years and the standard deviation 1.5 years. Combining some tests and dropping others reduced the number of tests finally used to 78, which are briefly described in this report. Reliability coefficients were computed by odds-versus-evens, by alternate forms, or estimated by average intercorrelation, and are presented for all but two of the tests. Correlations of all variables with chronological age are presented and are generally very small, an exception appearing in the case of the dynamometer test. All of the 3003 intercorrelations among the 78 variables are presented to four places.—P. J. Rulon (Harvard).

647. Holzinger, K. J. Preliminary report on Spearman-Holzinger unitary trait study. No. 2. Intercorrelations from re-scoring tests, correlations with "g," means and standard deviations for boys and girls, preliminary analyses of speed and verbal tests, using Thorp data, 118 cases. Chicago: Statist. Lab., Dept. Educ., Univ. Chicago, 1934. Pp. 26. \$.60.—This report adds some correlations and analyses supplementary to *Preliminary Report No. 1*. Six tests of Spearman's perceptual *g* were rescored to eliminate speed and again to measure amount done. Correlations of these variables with each other and with the remaining 61 tests are presented, as are also the correlations of each variable with the *g* of the six tests. The saturation of the six tests with *g* is shown by *r* values centering around .94. Analysis of sex differences shows boys significantly superior to girls on four of the six tests of *g*. Other sex differences also appear. A technique of analysis using residual correlation is presented, including a definition of residual correlation and a formula for the probable error of residual *r*. After the influence of *g* has been removed from the correlations of eight speed tests, two distinct factors called *a* (mental speed) and *m* (motor speed) emerge. A third factor *s* (speed factor common to *a* and *m*) common to all tests is also apparent, though more than half the observed variance is accounted for by specific factors. Analysis of thirteen verbal tests shows them to be more largely measures of *v* (verbal ability) than of *g*, with specific factors again making up the larger portion of the total variance.—P. J. Rulon (Harvard).

648. Holzinger, K. J. Preliminary report on Spearman-Holzinger unitary trait study. No. 3. Raw correlations, correlations corrected for age, reliabilities, means, and standard deviations for Mooseheart sample of 100 cases. Comparison of

Thorp and Mooseheart reliabilities, age correlations and basic tetrads for correlations with "g." Chicago: Statist. Lab., Dept. Educ., Univ. Chicago, 1935. Pp. 37. \$.60.—Concerns chiefly correlations from 100 cases taken from the main group at Mooseheart, cases being selected from about 700 as affording the best measure of *o* (oscillation). Chronological ages of the sample exhibited a mean of 17 years and a standard deviation of 1.9 years. A total of 63 tests were included in the report, many of which are the same as those given to the Thorp School children and referred to in earlier reports. Basic intercorrelations among the 63 variables are presented both raw and corrected for age by partial correlation. Reliability coefficients are given both in terms of raw score and corrected for age. Differences between the two values are generally very small. The grammar and general information tests were given in such a way as to study the effect of motivation, some of which appeared in the grammar test, but none in the case of general information. For most of the tests the reliabilities are considerably higher than in the Thorp data.—P. J. Rulon (Harvard).

649. Holzinger, K. J. Preliminary report on Spearman-Holzinger unitary trait study. No. 4. Factor patterns and residual correlations for Thorp and Mooseheart data. Chicago: Statist. Lab., Dept. Educ., Univ. Chicago, 1935. Pp. 79. \$.60.—A factor pattern for 57 tests using Thorp raw correlations shows specific factors accounting for 63% of the total variance (Spearman's perceptual), *g* accounting for 14%, *v* (verbal ability) 10%, *a* (mental speed) 5%, *m* (motor speed) 4%, *d* (mechanical ability) 2%, and *t* (attention) 2%. For 63 tests using Mooseheart partial correlations with age eliminated, the factor pattern shows specific factors accounting for 51% of the total variance, with *g* accounting for 21%, *v* 12%, *a* 5%, *m* 3%, *o* (oscillation) 2%, *d* 2%, and *t* 2%. Residual intercorrelations are presented for both sets of data, first with *g* eliminated, then with *g* and *v* eliminated, then with *g*, *v*, and *a* eliminated, then with *g*, *v*, *a*, and *m* eliminated. For the Thorp data further residual correlations are presented from the successive further eliminations of *d* and *t*, and for the Mooseheart data after successively eliminating *o*, *d*, and *t*. After these eliminations the Thorp data showed residual *r*'s averaging .0017 with a standard deviation of .0655, where the probable error of zero correlation is .0621. For the Mooseheart data the mean residual *r* was -.0008 and the standard deviation .0621.—P. J. Rulon (Harvard).

650. Holzinger, K. J. Preliminary report on Spearman-Holzinger unitary trait study. No. 5. Introduction to bi-factor theory; solid and hollow staircase patterns for sets of data from Mooseheart. Chicago: Statist. Lab., Dept. Educ., Univ. Chicago, 1935. Pp. 57. \$.60.—A factor theory called bi-factor is introduced. The method aims to come directly to useful simple factors, the nature of which can be learned from the tests themselves. The result of the method is called a "hollow staircase." The principal factor is called *u*₁ and turns out to be smaller than the

principal factor computed by Spearman's 1914 method or by Thurstone's center of gravity method. After the principal factor has been removed, the remaining factors may be taken out in any order; the pattern is unique with respect to these secondary factors. The procedure for obtaining the "hollow staircase" pattern is to seek clusters of tests which are in tetrad relationship. The factor u_1 is then removed and the secondary factors are eliminated in succession, leaving final residuals which should be negligible. The theory assumes that a set of correlations may be thought of as due to a number of secondary or simple group factors which meet the test of the tetrad criterion. Application of the method to 36 tests administered to 100 Mooseheart cases (see previous reports) showed the principal factor u_1 accounting for 29% of the variance, while o (oscillation), a (mental speed), g (Spearman's), and d (mechanical ability) each accounted for about 3% and v (verbal ability), m (motor speed), t (attention), and i (imagination) each accounted for about 2%, leaving 51% to be accounted for by specific factors.—*P. J. Rulon* (Harvard).

651. **Humm, K. A.** The applicability of the Grace Arthur performance scale to an adolescent group. *Psychol. Bull.*, 1935, 32, 538.—Abstract.—*J. F. Dashiell* (North Carolina).

652. **Mayer, B. A.** Negativistic reactions of pre-school children on the new revision of the Stanford-Binet. *Psychol. Bull.*, 1935, 32, 541-542.—Abstract.—*J. F. Dashiell* (North Carolina).

653. **Stephenson, W.** Correlating persons instead of tests. *Character & Pers.*, 1935, 4, 17-24.—The author advocates and illustrates the use of a special application of the two-factor technique, namely, correlating persons instead of tests. This method has the advantages (1) that it applies the factor technique to test items, (2) that it can be used with a small number of individual subjects, (3) that it is subject to rapid experimentation, and (4) that it can be used with any factor theorem—Spearman's or that of anyone else.—*M. O. Wilson* (Oklahoma).

654. **Stump, N. F.** The experimental development of an auditory group test of intelligence. Keuka, N. Y.: Author, 1935. Pp. 4.—An investigation carried on in the graduate school of Cornell University. The usual kinds of tests were employed: information, arithmetic, analogies, and opposites. The advantages of auditory presentation of material are: oral communication is most natural, the cost is less than for printed forms, the premium on reading ability is eliminated, coaching is less likely, time factor per unit of work is held constant for all children, a higher level of attention is maintained. The experimental groups comprised 750 children, ages 8-14, grades 3-9. "The tests were recorded and their reliability studied using the phonograph procedure. If satisfactory reliability is secured, the auditory test may be accepted as a sufficiently accurate measure of intelligence, and may be used to supplement the current printed tests. Its exclusive use is not recommended at present." The material is not yet available in

printed form; the bound thesis, containing 433 pages, 140 pages of tables and 67 pages of graphs, is available through the Cornell library.—*R. Goldman* (Clark).

655. **Taylor, H. R.** The effect of time interval on the reliability of ACE psychological examination scores. *Psychol. Bull.*, 1935, 32, 545-546.—Abstract.—*J. F. Dashiell* (North Carolina).

656. **Thorndike, E. L., Woodyard, E., & Lorge, I.** Four new forms of the I.E.R. Intelligence Scale for use on the college or higher levels. *Sch. & Soc.*, 1935, 42, 271-272.—The report gives the distribution, mean, and sigma of the scores for 100 adults on the original and the four new forms of the CAVD test (levels M-Q). The inter-form coefficients of correlation range from .88 to .93. The means and sigmas of the scores for the standardization group differ relatively little from form to form. The authors conclude that the new forms are satisfactory substitutes for the original and the greater ease and speed with which they can be scored makes practicable a wider use for them than for Form I.—*H. L. Koch* (Chicago).

[See also abstracts 35, 543.]

CHILDHOOD AND ADOLESCENCE

657. **Angel, A.** Aus der Analyse einer Bettnässerin. (From the analysis of a bed-wetter.) *Z. psychoanal. Pädag.*, 1934, 8, 216-228.—*H. Beaumont* (Kentucky).

658. **Arkin, E. A.** [The child and his toy under conditions of primitive culture.] Moscow: 1935. Pp. 96.—The toy of the child of the paleolithic period is an evidence of the good innate qualities of the "primitive" child, which place him on a level with the modern cultured child. The deviations of the line of development of the primitive child from the line of development of the civilized child—impetuous starting and early psychic fading—result not from racial biological distinctions but from the difference of the historically formed environment in which the evolution of the child is going on. Not poor biology but the low level of productive powers and poor economics define the poor experience, the limited mental power, and the superstitions of primitive man. The change of the child's social environment levels the line of development, and the toy of the child in the USSR must correspond to the claim of the epoch, to the spirit of social culture.—*A. Yarmolenko* (Leningrad).

659. **Bayley, N.** Some aspects of physical growth in young children. *Psychol. Bull.*, 1935, 32, 526-527.—Abstract.—*J. F. Dashiell* (North Carolina).

660. **Bley, E. A.** [Acute reactive states in early childhood.] *Sovetsk. Psikhonevrol.*, 1935, No. 3, 100-106.—The reactive states and fear neuroses at ages from 1 to 7 years are provoked by traumatizing situations. These neuroses tend to repetition, which indicates the instability of the nervous system of the little patient.—*A. Yarmolenko* (Leningrad).

661. **Bornstein, B.** Enuresis und Kleptomanie als passagères Symptom. (Enuresis and kleptomania as passing symptoms.) *Z. psychoanal. Pädag.*, 1934,

8, 229-237.—A 5½-year-old girl who had been very fond of her 9-year-old brother had been separated from him. A substitute was found, but when this boy showed preference for playing with boys of his own age, the girl began to show signs of maladjustment. Enuresis occurred in connection with vivid dreams which caused her to get up and, half-asleep, urinate standing up "like a boy." After the significance of this behavior had been explained to her, she refused to believe it; at the same time, enuresis was discontinued and replaced by petty thievery of small, worthless objects (marbles, pieces of an elephant tusk which she had broken off). This new symptom was again explained to her as an attempt at obtaining equal status with her brother, after which it disappeared. In a few weeks she displayed a definitely feminine attitude, and instead of taking objects begged her father to give them to her. Her wish to be a man was replaced by the wish to receive something from a male.—H. Beaumont (Kentucky).

662. Bornstein, S. Eine Technik der Kinderanalyse bei Kindern mit Lernhemmungen. (An analytical technique for use with children who are slow learners.) *Z. psychoanal. Pädag.*, 1934, 8, 141-154.—In many instances it will be found advantageous to combine regular practice in the field of retardation with the analytical procedure. This forces the child to combat the subconscious causes of his retardation and allows the analyst to observe and aid him in this battle. Moreover, when once the roots of the difficulty have been discovered, the child will not have fallen as far behind as would have been the case without such exercises. Finally, the child will be better able to grasp the analytical interpretations of his problem because he has assisted the counselor in constructing them.—H. Beaumont (Kentucky).

663. Chassé, J. V. A nervous child. *Int. J. indiv. Psychol.*, 1935, 1, 86-95.—A detailed account of the analysis and attempted treatment of a 12-year-old problem boy (probably mentally defective).—O. N. de Weerd (Beloit).

664. Courtis, S. A. Maturation as a factor in diagnosis. *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 169-187.—Essentially a biological term, maturation is a process by which immature organisms reach a terminal state under the influence of constant forces operating under constant conditions. It may refer to the whole organism or to its parts, which all mature as an interrelated series. Learning is essentially a matter of biological maturation. The formula for the entire maturation curve, $y = ki^r$ where "y is the measurement at the time t, k is the ultimate development at maturity, i is the degree of development at the outset, and r is the rate of growth," has important implications for diagnosticians. Learning occurs according to law, and under controlled conditions is highly predictable. Maturation cycles are important in diagnosis and teaching. "Teaching is not measured by achievement but by the change in the rate of growth it produces." A child's nature and the conditions under which he learns determine rates of growth. To fully appreciate the value of the

concept of maturation in all diagnoses, we should preserve all cumulative records and in constructing control situations watch both the achievement level and the growth levels of individuals.—P. S. de Q. Cabot (Harvard).

665. Croner, E. Die Psyche der weiblichen Jugend. (The soul of the young girl.) *Manns pädag. Mag.*, 1935, No. 996, Pp. 106. (6th ed.)—See II: 3283.—R. R. Willoughby (Clark).

666. Dennis, W. The effect of restricted practice upon the reaching, sitting, and standing of two infants. *J. genet. Psychol.*, 1935, 47, 17-32.—Two children (twins) were reared up to the end of their fourteenth month under restrictions of activities consisting in part of keeping them on their backs and not permitting them to sit or stand. Visually directed reaching and grasping, sitting alone, and standing with help, were retarded in both subjects beyond the upper age limit found in normative studies by other investigators. It is concluded that such retardations resulted from the restrictions of exercise. Each response was readily established when practice was offered. Some alternative explanations, such as general muscular weakness, are rejected for reasons that are advanced.—J. F. Dashiell (North Carolina).

667. Gesell, A. Cinemanalysis: a method of behavior study. *J. genet. Psychol.*, 1935, 47, 3-16.—A description is given of the advantages of cinematography in the highly detailed analyses of infant behavior development, especially the method as applied in slow motion, in selected phases, and in minute pattern phases. Samples of the latter two are described, taken from film showing typical behavior in a "rattle situation." Advantages are pointed out in the control of the projector to produce forward or reverse motion, intermittent projections, and slow and fast rates.—J. F. Dashiell (North Carolina).

668. Goodenough, F. L. A further study of speed of tapping in early childhood. *J. appl. Psychol.*, 1935, 19, 309-319.—Speed of tapping was studied with the stylus and the finger in a group of 240 children ranging from 2½ to 5½ years. The growth curves for both methods of tapping show negative acceleration. The order of functional maturity is from large to small muscle groups as shown in comparisons with adult norms in the tapping tests on index, middle and little fingers. Correlations among scores by different methods are generally low positive. Individual differences in tapping scores persist over several months but tend to become less consistent after two years.—R. S. Schultz (Psychological Corporation).

669. Halverson, H. M., & Amatruda, C. S. A case of ulnar duplication. *J. gen. Psychol.*, 1935, 13, 140-146.—Description of a case of polydactylism coexisting with a complete absence of the radius, where the radius was replaced by a second ulna and the hand had seven fingers but no thumb.—H. Cason (Wisconsin).

670. Hanten, A. Experimentelle Untersuchung über die Entwicklung des sittlichen Urteils in Be-

ziehung zur Entwicklung von Gefühl und Intelligenz. (Experimental investigation of the development of moral judgment in relation to that of feeling and intelligence.) Quakenbrück: Trute, 1934. Pp. 82.—R. R. Willoughby (Clark).

671. Hardy, M. C. The out-of-school activities of well-adjusted and poorly adjusted elementary school pupils. *J. educ. Psychol.*, 1935, 26, 455-467.—The sources of behavior data were teacher ratings and observations, pupil interviews, and parent reports. The sources of information relative to out-of-school activities were given by the child, his teachers, and parents. Out-of-school activities are summarized under the following headings: attendance at movies, organized recreational and educational activities, size of play unit, and types of play. "The implication from the findings of this investigation seems to be that what children of elementary school age do with their after-school hours is not an important conditioning factor in their personal adjustments."—A. W. Melton (Missouri).

672. Holub, M. Conversations with parents and children. *Int. J. indiv. Psychol.*, 1935, 1, 96-112.—Detailed, apparently stenographic, reports of conversations with parents and children in a child guidance clinic. Intended to show the unique and superior insight of adherents of the so-called school of individual psychology.—O. N. de Weerd (Beloit).

673. Jersild, A. T., & Holmes, F. B. Children's fears. *Child Developm. Monogr.*, 1935, No. 20. Pp. ix + 358.—The fears of children from infancy through adolescence, the effects of fear, and methods of dealing with fear have been studied by a variety of methods. The monograph is in four parts. Part I, "Children's fears observed in daily life by parents and other adults," by both authors, is based upon (1) data submitted by parents who recorded their children's fears for a period of 21 days: the data include 153 such 21-day records, representing 136 infants and preschool children; (2) reports submitted by 52 additional adults who kept occasional records of the fears exhibited by children in their care; (3) interviews with 31 parents; and (4) a few supplementary case studies. The data are classified and tabulated under a number of specific and general categories, and are treated in terms of such factors as age, sex, causation, prevention, sibling resemblances, etc. Part II, "Fears reported by children themselves and fears recalled from childhood by adults," by both authors, is based upon (1) data obtained from 300 adults, each of whom submitted a written anonymous report of his childhood fears, of his methods of coping with fear, and of fears persisting into adult life, and (2) a review of results obtained in an earlier study in which 400 children aged 5 to 12 years described their fears in response to questioning during private interviews. The age trends in Part II conformed, to an unexpected degree, to the age trends exhibited by the data in Part I. Part III, "An experimental study of the fears of young children," by Holmes, gives results obtained when 105 preschool children were individually confronted with potentially fear-provoking situations (including noise,

darkness, animals, a strange person, a high place, insecure footing, being left alone) under experimental conditions; "fear scores" were computed and treated in relation to age, sex, intelligence, etc., and case studies were made of outstanding children. Part IV, "The nature and prevention of childhood fears," by Jersild, summarizes the general findings, discusses the causes and utility of fear, and deals with factors in the overcoming and prevention of childhood fears.—A. Jersild (Columbia).

674. Jersild, A. T., & Markey, F. V. Conflicts between preschool children. *Child Developm. Monogr.*, 1935, No. 21. Pp. ix + 181.—54 two- to four-year-old nursery-school and day-nursery children were observed during their free play, each for 10 15-minute periods, and their "social conflicts," ranging from rather severe fights and quarrels to milder verbal or physical interferences and aggressions, were recorded, providing a record of 1577 conflicts. 36 of the children were similarly studied a year later. The reliabilities of the observers, of the categories used in analysis of the data, and of the sampling were satisfactory. Some findings: Group differences in frequency and methods of conflict (e.g., one nursery school or day nursery as compared with others) were decidedly more marked than differences as related to age, sex, intelligence, etc., largely by reason of differences in amount of play space and teacher practices in the various schools. Boys and girls were quite similar at the age of two years, then tended to diverge, with boys exhibiting relatively more aggressiveness and hitting, and girls using relatively more language and crying. The children did not exhibit clear-cut hierarchies of privilege or immunity to attack. In frequency of conflicts, duller children tended slightly to exceed the brighter, children of South European parentage slightly exceeded North Europeans (but neither difference was reliable); children of lower socio-economic status far exceeded those of higher status. Most children showed an increase in conflicts after a year in nursery school. One small group, subject to close teacher supervision in the nursery school, more than doubled its conflicts when later enrolled under a less assiduous kindergarten teacher. There were high correlations between frequency of individual children's conflicts one year in the nursery school as compared with the next. Expressions of sympathy and fighting in behalf of others were relatively rare.—A. T. Jersild (Columbia).

675. Joël, W. A behavior maturity rating scale for nursery school children. *Psychol. Bull.*, 1935, 32, 538.—Abstract.—J. F. Dashiell (North Carolina).

676. Jones, R. H. A comparison of the intelligence of high-school athletes with non-athletes. *Sch. & Soc.*, 1935, 42, 415-416.—80 boys on one or another of the athletic teams of Washington High School in Indianapolis who qualified for an award are compared in intelligence-test performance with 493 boys from the same school without the athletic distinction. It is concluded that the athletes as a group are more intelligent than the others, the greatest difference between the two occurring at the lowest IQ levels, where relatively fewer of the athletes are to be found

than the non-athletes. At the superior and near-genius levels the athletes and non-athletes are found in the same relative proportions.—*H. L. Koch* (Chicago).

677. **Karau, E.** *Versuche über schlussfolgerndes Denken bei Kindern.* (Researches on deductive thinking in children.) Bonn: Neuendorff, 1934. Pp. 60.—*R. R. Willoughby* (Clark).

678. **Lahy-Hollebecque, Mme. L'enfant.** (The child.) Paris: Sagittaire, 1932. Pp. 200.—The author insists that there should be more consideration given to children, who, she claims, have been singularly neglected up to the present. In various chapters she shows that the child is neither understood, desired, protected, educated, nor entertained. She discusses the rights of children, in particular the rights of culture, education, and professional preparation. As to the question of careers, new laws should fix the length of apprenticeship, organize laboratories for professional orientation, organize secondary manual training, and perfect work protection. In several instances she emphasizes the importance which should be given to professional orientation, recalling the beginnings of the movement in France.—*M. H. Piéron* (Sorbonne).

679. **Lamson, E. E.** *High-school achievement of fifty-six gifted children.* *J. genet. Psychol.*, 1935, 47, 233-238.—The later records of children reported in an earlier study (see V: 1220) were analyzed to determine their final high-school achievements. The gifted children were approximately two years younger than control children both upon entering high school and upon graduating. In both Regents record and school record the former were significantly superior. Throughout their high-school career they maintained a scholastic achievement significantly superior.—*J. F. Dashiell* (North Carolina).

680. **Levy, K.** *Vom Bettnässen des Kindes.* (Bed-wetting in children.) *Z. psychoanal. Pädag.*, 1934, 8, 178-195.—Enuresis is not to be considered a physical ailment or simply a bad habit, for in most cases analysis will reveal an emotional experience as its cause. In children as in adults it is frequently a substitute for pollution. It is important to distinguish between primary enuresis (retardation symptom) and secondary, which develops again after habits of cleanliness have for some time been established (due to emotional experiences: change of foster mother, sleeping with parents, etc.). Prophylaxis of primary enuresis is relatively simple. The child should not succeed in receiving undue attention when performing bodily functions. In therapy any method involving fear as a motive should be avoided. Close collaboration with the child's immediate environment is essential inasmuch as new habit systems have to be established. Psychoanalytic treatment will be necessary when the habit has become a symptom of neurosis.—*H. Beaumont* (Kentucky).

681. **Lowen, M. B.** *The effect of environment on creative ability in fourth-grade children.* *Elem. Sch. J.*, 1935, 36, 120-126.—This study represents an attempt to equate factors such as sex, age, intelligence,

and grade placement, and to determine the effect of one variable, environment, upon the production of poetry. "Environment" was estimated by visits to some homes, by use of the Sims Score Card for Socio-Economic Status, and by the results of "a carefully conducted [neighborhood] survey." Equated on the bases mentioned above were 82 children from a "poorer" school and a similar number from a "better" school. The two groups were taught by the same teacher, who used the same books and the same methods. The poems produced during one school year were evaluated by 5 educators. The writer concludes that "environment made no appreciable difference in the quality of poetry produced . . . children from both poor and better environments can write poetry." From data not presented in the article the author concludes that: "The correlation between intelligence and ability to produce creative poetry is not so great as has been supposed. Children of the highest intelligence do not always write the best poetry, and children below normal intelligence can sometimes produce comparatively fair work. Most of the best poetry in this experiment was produced by children with intelligence quotients ranging from 112 to 126." Girls excelled boys in writing creative poetry.—*P. A. Witty* (Northwestern).

682. **Macfarlane, J. W.** *Frequency of problem behavior in a normal preschool sample.* *Psychol. Bull.*, 1935, 32, 540-541.—Abstract.—*J. F. Dashiell* (North Carolina).

683. **Ogden, E., & Shock, N. W.** *Individual differences in response to stair climbing in children and adults.* *Psychol. Bull.*, 1935, 32, 542-543.—Abstract.—*J. F. Dashiell* (North Carolina).

684. **Olson, W. C.** *The diagnosis and treatment of behavior disorders of children.* *Yearb. nat. Soc. Stud. Educ.*, 1935, 34, 363-397.—Behavior is regarded as a function of the situation as well as of the individual, hence treatment of a behavior problem implies changing both the child and the environment. To obtain adequate behavior data teachers must rely mainly on interviews and direct observations. Important for this purpose are various devices such as the problem record log, systematic measurement by direct observation, rating scales, questionnaires, personal data sheets, tests and case studies. General principles of treatment should recognize the nature of multiple causation, with consequent varied approach. Behavior can be controlled and modified according to the principles of the graded, added and subtracted stimulus. The use of language is potentially important. Treatment may be effected by means of guidance, physical punishment, isolation, the use of playground equipment, and interviewing, some of which have only limited value. Specialized information is required in the case of such specific difficulties as aggressive anti-social conduct, stealing, over-activity, organic inferiority, oral habits, nervous mannerisms, personal and social genital habits, maternal over-protection, withdrawal behavior, fears, and the "escape" responses. Organized approaches to the study and treatment of behavior deviates are

made through special classes, special schools, parent education, summer camps, clinics, treatment planning committees, and training programs in teachers' colleges.—*P. S. de Q. Cabot* (Harvard).

685. **Schmideberg, M.** *Die Spielanalyse eines dreijährigen Mädchens.* (The play analysis of a three-year-old girl.) *Z. psychoanal. Pädag.*, 1934, 8, 196-215.—Before receiving treatment this girl tried to repress fears and aggressiveness by sleeping and being "good," but could not avoid periods of violent affective outbursts. Analysis decreased the intensity of her phobias to the extent that she could face them and express them in her play activities. Sublimation replaced repression, first in the form of general aggressiveness and shouting, later through further libidinization developing into curiosity and singing. Her fears were minimized to the extent of permitting her to make entirely satisfactory heterosexual and homosexual adjustments to her parents, which had formerly been impossible.—*H. Beaumont* (Kentucky).

686. **Smith, H. P., & Hixon, L.** *A comparative study of orphanage and non-orphanage children.* *Elem. Sch. J.*, 1935, 36, 110-115.—Comparison of 113 orphan and 426 non-orphan children, comprising the entire population of one elementary school, revealed on the Otis intelligence, Gates Silent Reading, and Stanford Achievement tests consistent but small and statistically insignificant differences which favored

the non-orphans. The latter, it should be noted, came from relatively superior homes.—*P. A. Witty* (Northwestern).

687. **Wenzl, A.** *Leitlinien einer Begabungslehre.* (Outlines of a doctrine of endowment.) *Ber. Kongr. dtsh. Ges. Psychol., Leipzig*, 1934, 13, 182-184.—*R. R. Willoughby* (Clark).

688. **Witmer, H. L.** *The later social adjustment of problem children: a report of thirteen follow-up investigations.* *Smith Coll. Stud. Soc. Work*, 1935, 6, 1-98.—The effectiveness of clinical treatment in the later social adjustment of various types of problem children is reported in this series of papers. The evidence gathered in follow-up investigations of cases from thirteen clinics located in different areas of this country points out three main facts: (1) that behavior disorders do not affect later social adjustments except in cases where the children are psychotic; (2) that the results for various clinics are quite similar, even though their methods of treatment differ; (3) that the emotional set-up of the home is far more closely related to child adjustment than are such tangible factors as age, sex, nationality, and economic status.—*R. H. Brown* (Yankton).

[See also abstracts 56, 87, 99, 134, 147, 148, 327, 338, 361, 378, 397, 445, 447, 466, 537, 543, 584, 627, 651, 652.]

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